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PREFACE

Year Book Australia is the principal reference work produced by the Central Office of the Australian Bureau of Statistics (ABS). It provides a comprehensive and detailed statistical review of various aspects of the economy and social conditions in Australia. In addition, it contains descriptive matter dealing with Australia's history, government, international relations, defence, climate, physiography, culture and environment.

The first *Official Year Book of the Commonwealth* was published early in 1908, although individual Australian States and colonies had been producing year books for several decades before that. *Year Book Australia 1990* is issued under the authority of the Commonwealth Government and follows a similar pattern to past issues. However, chapters have been revised and new material added.

Each year a number of *Special Articles* appear in the Year Book. This year the *Special Articles* are listed in the Table of Contents.

Most of the statistics contained in this volume relate to the years ended June or December 1988 or 1989. More detailed, and in most cases more recent, statistics are available in other ABS publications. The more significant of these publications are listed at the end of the relevant chapters of the Year Book, while the ABS *Catalogue of Publications and Products* (1101.0) lists all current publications of the ABS.

I extend my thanks and appreciation to all those officers involved in the preparation of *Year Book Australia 1990* and those organisations who have kindly supplied material for inclusion in this publication.

Australian Bureau of Statistics
Canberra
May 1990

IAN CASTLES
Australian Statistician

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A number of government departments as well as private organisations and bodies have provided information in conjunction with the Australian Bureau of Statistics for inclusion in the *Year Book*.

The Bureau would like to thank the following institutions who either supplied basic material for the various chapters or advised on their preparation.

- ACT Electricity and Water
- ACT Community and Health Services
- ACT Housing Trust
- ACT Institute of Technical and Further Education
- ACTION
- Advisory Council of Libraries and Information Services
- AGL Canberra Limited
- AMDEL Limited
- Arts Council of Australia
- Attorney-General's Department
- AUSSAT Pty Ltd
- Australia Council
- Australia Post
- Australian Archives
- Australian Association of Adult and Community Education
- Australian Ballet Foundation
- Australian Broadcasting Commission
- Australian Broadcasting Tribunal
- Australian Bureau of Agricultural and Resource Economics
- Australian Children's Television Foundation
- Australian Council of National Trusts
- Australian Customs Service
- Australian Dairy Corporation
- Australian Design Council
- Australian Egg Marketing Council
- Australian Electoral Commission
- Australian Elizabethan Theatre Trust
- Australian Federal Police
- Australian Film Commission
- Australian Film, Television and Radio School
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  - Division of Building, Construction and Engineering
  - Institute of Animal Reproduction and Processing
  - Institute of Industrial Technology
  - Institute of Natural Resources and Environment
  - Institute of Plant Production and Processing
  - Water Research Committee
- Conservation Commission, Northern Territory
- Council of Adult Education
- Defence Service Homes Corporation
- Department of Aboriginal Affairs
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- Department of the Chief Minister (Northern Territory)
- Department of Community Services and Health
- Department of Defence
- Department of Education (ACT)
- Department of Education (Northern Territory)
- Department of Employment, Education and Training
- Department of Energy (New South Wales)
- Department of Engineering and Water Supply (South Australia)
- Department of Foreign Affairs and Trade
- Department of Health (ACT)
- Department of Housing (New South Wales)
- Department of Immigration, Local Government and Ethnic Affairs
- Department of Industrial Relations

Department of Industries and Development (Northern Territory)
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Department of Mines (Queensland)
Department of Mines (Tasmania)
Department of Mines (Western Australia)
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Department of Veterans' Affairs
Department of Water Resources (New South Wales)
Department of Water Resources (Victoria)
Dumaresq–Barwon Border Rivers Commission, Brisbane
Electricity Trust of South Australia
Engineering and Water Supply Department, Adelaide
Federal Airports Corporation
Film Australia
Government Law Office (ACT)
Great Barrier Reef Marine Park Authority
Housing and Community Services Bureau (ACT)
Housing Loans Insurance Corporation (The Treasury)
Housing Tasmania
Hydro-Electric Commission (Tasmania)
Independent Airfares Committee
Industrial Design Council of Australia
Industry Commission
Institute of Minerals, Energy and Construction
Insurance and Superannuation Commissioner
International Cultural Corporation of Australia
Joint Coal Board
Law Reform Commission
Ministry of Housing and Construction (Victoria)
Murray–Darling Basin Commission
Musica Viva
National Arts Industry Training Council Limited
National Association of Australian State Road Authorities
National Association of Testing Authorities
National Crime Authority
National Film and Sound Archive
National Heart Foundation of Australia
National Library of Australia
National Museum of Australia
National Occupational Health and Safety Commission
National Standards Commission
Northern Territory Housing Commission
Northern Territory Power and Water Authority
Northern Territory Tourist Commission
Office of Film and Literature Classification
Office of Industry and Development (ACT)
Office of Multicultural Affairs
Overseas Telecommunications Commission, Australia
Queensland Electricity Commission
Queensland Housing Commission
Queensland Railways
Queensland Water Resources Commission
Radio Australia
Rail Industry Council
Reserve Bank of Australia
River Murray Commission
Rivers and Water Supply Commission, Hobart
Rural Water Commission of Victoria
SAGASCO
South Australian Housing Trust
Special Broadcasting Service
Standards Association of Australia
State Bank of New South Wales
State Electricity Commission (Victoria)
State Electricity Commission (Western Australia)
State Housing Commission of Western Australia (Homeswest)
State Rail Authority of New South Wales
State Transport Authority (South Australia)
State Transport Authority of Victoria
Tasmanian Development Authority
Telecom Australia
Territory Planning Office
Treasury (ACT)
Water Authority of Western Australia
Water Resources Commission
Westrail
Worksafe Australia

GENERAL INFORMATION

Symbols

The following symbols, where shown in columns of figures or elsewhere in tables, mean:

n.a.	not available
n.y.a.	not yet available
—	nil or rounded to zero
. .	not applicable
n.p.	not available for separate publication (but included in totals where applicable)
p	preliminary—figure or series subject to revision
r	figures or series revised since previous issue
n.e.i.	not elsewhere included
n.e.c.	not elsewhere classified
n.e.s.	not elsewhere specified
——	break in continuity of series (where drawn across a column between two consecutive figures)
*	subject to sampling variability too high for most practical purposes.
	m.—males; f.—females; p.—persons.

Other forms of usage

The following *abbreviations* are used for the titles of the Australian States and Territories and Australia: NSW (New South Wales), Vic. (Victoria), Qld (Queensland), WA (Western Australia), SA (South Australia), Tas. (Tasmania), NT (Northern Territory), ACT (Australian Capital Territory), Aust. (Australia).

In general, the *statistics in this volume relate to the States and Territories of Australia*, i.e. they exclude particulars of the External Territories of Australia, which, however, are specifically dealt with in Chapter 27, The Territories of Australia.

Yearly periods shown as e.g. 1986 refer to the year ended 31 December 1986; those shown as e.g. 1985–86 refer to the year ended 30 June 1986. Other yearly periods are specifically indicated. The range of years shown in table headings, e.g. 1901 to 1985–86 indicates the period covered, but does not necessarily imply that each intervening year is included.

Values are shown in Australian dollars ($ or $A) or cents (c) unless another currency is specified.

Catalogue numbers. Throughout this book references are made to ABS publications. In each case the catalogue number is shown in brackets; this should be quoted when ordering these publications (see below).

Where figures have been rounded, *discrepancies may occur between sums of the component items and totals*.

Availability of ABS publications

Information regarding the availability of ABS publications and other products can be obtained from Central Information Services Section, Australian Bureau of Statistics, PO Box 10, Belconnen, ACT 2616, Australia, phone (06) 252 6627, or from ABS offices in any capital city in Australia.

A complete list of ABS publications produced in Canberra and in each of the State Offices is contained in the ABS *Catalogue of Publications and Products (1101.0)* which is available from any ABS office.

In many cases, the ABS can also provide information which is not published or which is historical or compiled from a variety of published and unpublished sources. Information of this kind may be obtained through the Information Consultancy Service. This information may be made available in one or more of the following forms: consultancy reports, microfiche, floppy disk, magnetic tape, computer printout or photocopy. Charges are generally made for such information. Inquiries may be made by contacting Information Services in the nearest ABS office.

1

PRE–HISTORY TO FEDERATION

Early Knowledge and Discovery of Australia

Pre–history

Humans entered the Australian continent from the South-East Asian area during the last glaciation at least 40,000 years ago, at a time when sea levels were much lower than they are today. Even so, these first migrations would have involved a sea voyage of some 60 kilometres, making it possibly the world's earliest sea-borne migration. Settlement was well established 25,000 to 30,000 years ago and by 20,000 years ago almost the entire continent was inhabited.

The original Australians lived as hunter-gatherers, using tools of wood, bone, shell and stone. Archaeological evidence indicates that a simple pan-continental toolmaking tradition existed, characterised by stoneware tools; scrapers were used to fashion further tools out of wood. This continued until 5,000 to 6,000 years ago, at which time a range of more specialised small tools began to emerge. But, in Tasmania, isolated 12,000 years ago by the post-glacial rising seas, Aboriginals still maintained the culture of the late Pleistocene period, until subject to the influence of European settlement of the island.

Estimates by anthropologists of the Aboriginal population at the time of European settlement have varied greatly. In 1930, anthropologist Radcliffe-Brown postulated a minimum figure of 300,000, which was officially accepted by the government. Recent archaeological finds suggest that a population of 750,000 could have been sustained. They were divided into some 500 small groups and spoke a variety of languages and dialects. These groups or tribes were further divided into 'bands' or clusters of family groups and formed the basic self-sufficient economic unit. Labour was divided between the sexes: the men hunted while the women foraged for roots and seeds and caught small animals which also formed a basic part of their subsistence. Local groups would congregate when food or water supplies were abundant or when ceremonial obligations demanded. Exchanges at these ceremonial gatherings led to the wide dispersal of goods. Religious and ceremonial activities relating to the land were a vital part of Aboriginal life. Evidence suggests they had developed the use of ochre as a ritual painting material as early as 25,000 years ago.

The physical barriers of distance and aridity within Australia itself caused, in part, cultural isolation and linguistic diversity of its people. European exploration and settlement was for most Aboriginal societies their first contact with an outside culture. The impact of this settlement in those areas where the colonists established themselves led rapidly to the disappearance of the traditional Aboriginal way of life.

Speculation on the Great South Land

The Ancient Greeks, who are said to have believed the world was round, postulated the existence of a Great South Land. The Christian peoples of Middle Ages Europe, for religious reasons however, no longer believed in a global world and saw the earth as flat and bounded by the fiery edges of the equator.

First references to Australia came from the Greeks, the Arabs, the Chinese, the Malays and Indians but are thought to have been largely a product of imagination. To the Malays, for example, the Great South Land though not uninhabited was the Land of the Dead. To the Hindu-Buddhists, who came from the first century AD to colonise Sumatra and Java, there were 'islands of gold' to the south of Java and to the south-east of Timor but, like the Middle Ages Christians before them, the beliefs shaped dangers too perilous to confront.

The Chinese recognised the fantasy of these and similar reports which they would certainly have heard of while trading in the area. Their maps show they knew of the Malay Peninsula, Sumatra, Java, Bali, Lombok, Timor, the Moluccas, Celebes and Borneo. However, the distances involved were too great and the evidence too small and fanciful, and their primary aim was to maintain the freedom of their existing trade routes rather than embark on new explorations. By the time they might have felt any incentive to explore further, domestic political changes curtailed their outward growth.

It is unclear whether any of these peoples, constrained as they certainly were by religious, superstitious and domestic political factors, paid visits to Australia. If they did, their knowledge made no impact on the world at large or on the history of Australia. Contacts of that nature are part of our documented history and probably begin with the occurrence of 'Java the Great' in a number of French maps dating from the middle decades of the sixteenth century. Although the significance of 'Java the Great' is hotly debated, so long as the Portuguese are thought to have been possible discoverers of large portions of our continent, one cannot easily dismiss suggestions that the French were here in the sixteenth century also.

The Portuguese and the Spanish

Theories that place the Portuguese here sometime in the sixteenth century have some support from inconclusive charts and documents but the assumptions rest largely on three points: the extensive exploration undertaken by this highly civilised seafaring race elsewhere about the globe; the Portuguese obsession with the quest for wealth, knowledge and conversion; and the certainty that the Portuguese debated the issue of a 'terra australis incognita' (unknown southern land). Yet hard, clinching evidence of contact is lacking.

Viceroys of Spain's American empire regularly sought new lands. One such expedition left Callao, Peru, in December 1605 under Pedro Fernandez de Quiros, a man of the Counter Reformation who desired that Catholicism should prevail in the southland. De Quiros reached the New Hebrides and named the island group 'Austrialia del Espiritu Santo' and he and some later Catholic historians saw this as the discovery of Australia. But the more important voyage was probably that of the other ship of the expedition that continued after de Quiros himself was forced to return to the Americas. Under Luis Vaez de Torres, this other ship sailed through Torres Strait but almost certainly failed to sight Australia. Although both de Quiros and de Torres returned to Hispanic America with enthusiasm for further explorations, they both failed to persuade Spanish officialdom to this course.

Discoveries by the Dutch

A few weeks before de Torres, the Dutch vessel *Duyfken*, after coming along the south coast of New Guinea from the west, swung over to the west coast of Cape York Peninsula in or about March 1606. Under the command of Willem Jansz, the *Duyfken* traversed some 200 miles of the Australian coastline as far as Cape Keer-Weer (Turn Again) without actually discovering Torres Strait. Subsequent visits were made by other Dutch vessels sailing from the Cape of Good Hope to Java which were often carried too far east and hit Australia. The first and most famous of these was Dirk Hartog's *Eendracht*, from which men landed and left a memorial at Shark Bay, Western Australia in October 1616. Hartog was followed by Houtman (1619), Carstensz (1623), Nuyts (1626–27), Thijssen (1627), Pelsaert (1629), Tasman (1642) and others.

Most important of all was the work of Abel Tasman, who was such a well-respected seaman in the Dutch East Indies that the Governor-General of the Indies, Anthony van Diemen, commissioned him to undertake a southern exploration. In November 1642, having made a great circuit of the seas, Tasman sighted the west coast of what he called Van Diemen's Land (Tasmania). He then explored New Zealand before returning to Batavia. A second expedition in 1644 contributed to the knowledge of Australia's northern coast, and established the name of 'New Holland' for the southern landmass.

Discoveries by the English

The English had made their first appearance on the Australian coast in 1688, when the north-westerly shores were visited by William Dampier in the trading vessel *Cygnet*. In 1699 he again visited Australia in command of HMS *Roebuck*. On his return to England, he published an account in which a description was given of trees, flowers, birds, and reptiles he had observed, and of his encounters with the natives.

Up until the end of the seventeenth century, it was not certain if Tasmania and New Zealand were parts of Australia or whether they were separated from it, yet formed part of a great Antarctic Continent. Lieutenant (later Captain) James Cook's first voyage, though undertaken primarily for the purpose of observing from Tahiti the transit of Venus, had also the objective of ascertaining whether the unexplored part of the southern hemisphere did in fact contain another continent. In command of HMS *Endeavour*, and accompanied by botanist Sir Joseph Banks, naturalist Dr Daniel Solander, astronomer Charles Green, draughtsmen and servants, James Cook, after observing the transit of Venus at Tahiti, turned towards New Zealand, sighting that land on 7 October 1769 in the vicinity of Poverty Bay.

On 20 April 1770, Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who saw it first. Coasting northwards, on 29 April 1770 he landed at Botany Bay. Cook resumed his voyage and sailed along the coast in a northerly direction for nearly 2,100 kilometres, before striking a coral reef in the vicinity of Trinity Bay where the *Endeavour* was seriously damaged. It was nearly two months before repairs were completed and Cook again set a course to the north through Torres Strait.

The Annexation of Australia

On 22 August 1770, Captain Cook took possession 'of the whole eastern coast, from latitude 38°S, to this place, latitude 10½°S, in right of His Majesty King George the Third', that is, over what now constitutes Victoria, the eastern parts of New South Wales and Queensland.

Annexation of the eastern part of the Australian continent and Tasmania

Formal possession, on behalf of the British Crown, of the whole of the eastern part of the Australian continent and Tasmania was taken on 7 February 1788, when Captain Phillip's commission, first issued to him on 12 October 1786 and amplified on 2 April 1787, was read to the people whom he had brought with him in the 'First Fleet'. The commission appointed Phillip

> Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty nine minutes south and of all the country inland, westward as far as the one hundred and thirty fifth degree of east longitude, reckoning from the meridian of Greenwich, including all the islands

adjacent in the Pacific Ocean within the latitude aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south.

By the middle of 1829, the whole territory, now known as Australia, had been constituted a dependency of the United Kingdom.

CHRONOLOGICAL TABLE OF MAJOR EVENTS IN AUSTRALIA SINCE 1788

1788

Arrival of 'First Fleet' at Botany Bay. Land in vicinity found unsuitable and the expedition moved to Sydney Cove on 26 January. Formal proclamation of the colony and the establishment of a regular government on 7 February.

1790

'Second Fleet' arrives with New South Wales Corps.

1791

'Third Fleet' arrives. Territorial seal brought by Governor King.

1792

Visit of the first foreign trading vessel, the *Philadelphia*.

1793

Arrival of the first free immigrants on the *Bellona*. First Australian church opened in Sydney.

1795

First printing press opened in Sydney.

1797

Introduction of merino sheep from the Cape of Good Hope. Coal discovered near Newcastle.

1798

Tasmania is proved to be an island by the voyage of Bass and Flinders.

1800

First Customs House established in Sydney.

1802

Discovery of Port Phillip.

1803

First Australian wool taken to England. Issue of the *Sydney Gazette*, the first Australian newspaper. First settlement at Port Phillip attempted.

1804

Hobart founded. Abandonment of settlement at Port Phillip.

1805

First extensive sheep farm established at Camden by Captain Macarthur.

1807

First shipment of merchantable wool from New South Wales to England.

1809

Free school established in Sydney.

1810

Post Office established in Sydney.

1813

Passage of the Blue Mountains discovered by Wentworth, Lawson and Blaxland.

1814

The name 'Australia', instead of 'New Holland', suggested by Flinders. Civil courts created.

1815

First free settlers arrive in Hobart.

1816

Sydney Hospital opened.

1817

First bank in Australia—Bank of New South Wales—opened in Sydney.

1821

Penal settlement at Macquarie Harbour in Tasmania established.

1823
New South Wales Judicature Act passed.

1824
New South Wales constituted a Crown Colony. Executive Council formed. Supreme Court at Sydney established, and trial by jury introduced. Penal settlement founded at Moreton Bay, Brisbane.

1825
Tasmania proclaimed a separate colony.

1827
First official claim of British sovereignty over all Australia.

1828
Second Constitution of New South Wales and first census.

1829
Foundation of Perth as a settlement on Swan River, Western Australia.

1830
Publication of *Quintus Servinton*, first novel to be published in Australia.

1831
SS Surprise, the first steamship built in Australia, launched at Sydney. First coal ship from Newcastle launched. First assisted immigration to New South Wales.

1835
Foundation of Melbourne.

1836
Foundation of Adelaide. Port Phillip (Victoria) district proclaimed as open for settlement.

1838
Assignment of convicts discontinued. Settlement at Port Essington, Northern Territory.

1840
Transportation of convicts to New South Wales abolished. Moreton Bay (Queensland) opened for free settlement.

1841
New Zealand proclaimed a separate colony from New South Wales.

1842
Incorporation of Sydney and incorporation of Melbourne.

1843
First Representative Constitution of New South Wales.

1847
Overland mail established between Sydney and Adelaide.

1849
Exodus of population to the goldfields of California. Transportation to Western Australia commenced.

1850
Final abolition of transportation to New South Wales. Sydney University founded. Representative government granted to Victoria and Tasmania.

1851
Gold discovered in New South Wales. Port Phillip created an independent colony under the name of Victoria. Legislative Council established in Western Australia.

1852
Arrival of *Chusan*, first P & O mail steamer from England.

1853
Transportation to Tasmania abolished. Melbourne University founded.

1854
Riots on the Ballarat goldfields and the Eureka Stockade stormed. Telegraph first used. First Australian Railway opened in Victoria.

1857
Manhood suffrage and vote by ballot introduced in Victoria.

1858

Manhood suffrage and vote by ballot introduced in New South Wales. Sydney, Melbourne and Adelaide linked by telegraph.

Population of Australia reached 1,000,000.

1859

Queensland proclaimed a separate colony.

1860

Burke and Wills expedition leaves Melbourne.

1861

Anti Chinese riots on goldfields of New South Wales. Regulations introduced on Chinese immigration. Burke and Wills perish at Coopers Creek, South Australia. World's first freezing works built in Sydney, eventually leading to meat exports. First Melbourne Cup held.

1863

Intercolonial Conference in Melbourne.

1864

First sugar made from Queensland cane.

1866

Camels introduced to South Australia.

1867

First Royal visit to Australia. Protective tariff imposed.

1868

Hougomont, the last convict ship arrived in Western Australia.

1870

Intercolonial Exhibition held in Sydney. Imperial troops withdrawn from New South Wales. Intercolonial Congress in Melbourne.

1871

Permanent military forces raised in New South Wales.

1872

Telegraph cable from Java to Port Darwin. Transcontinental telegraph line completed.

1873

Intercolonial Conference at Sydney. Mail service with San Francisco inaugurated.

1874

Intercolonial Conference at Sydney. University of Adelaide founded.

1876

Completion of telegraph cable between Sydney and Wellington, New Zealand.

1877

Population of Australia reached 2,000,000.

1878

Chinese immigration to Queensland restricted. Telephone introduced to Australia.

1880

First telephone exchange opened in Melbourne. Federal Conference at Sydney and Melbourne. Women first admitted to universities.

1881

Censuses taken on same date in all colonies for the first time.

1883

New South Wales and Victoria linked by railway. Federal Conference held at Sydney.

1884

Federation Bill passed in Victoria but rejected in New South Wales. British protectorate declared over New Guinea.

1885

Australian contingent sent to the war in Sudan.

1887

First 'Colonial' Conference held in London.

1888

Railway communication opened between Sydney and Brisbane. World Expo held in Melbourne to commemorate Australia's centenary.

1889

A new Constitution framed in Western Australia. Railway communication opened between Melbourne and Adelaide.

Population of Australia reached 3,000,000.

1890

Western Australia granted responsible government. Australasian Federation Conference at Melbourne. University of Tasmania founded.

1891

First Federal Convention at Sydney, draft Bill framed and adopted. Assisted immigration to New South Wales ceased.

1893

Financial crisis in eastern States.

1894

Women's suffrage granted in South Australia—first Australian State to do so.

1895

Conference of Premiers on Federation at Hobart. Land and income taxes introduced in New South Wales.

1897–98

Sessions of Federal Convention at Adelaide, Sydney and Melbourne.

1898

Draft Federal Constitution Bill rejected by New South Wales.

1899

Australian troops sent to war in South Africa. Conference of Premiers in Melbourne. Federal Constitution Bill amended.

1900

Naval troops sent to war in China. Commonwealth Constitution Act received Royal Assent, 9 July. Proclamation of the Commonwealth signed 17 September. Mr (later Sir) Edmund Barton formed the first Federal Ministry. Old age pension instituted in New South Wales.

1901

Commonwealth proclaimed at Sydney. First Commonwealth Parliament opened at Melbourne. Interstate free-trade established.

1903

The Federal High Court inaugurated.

1904

Commonwealth Conciliation and Arbitration Act passed.

1905

Census and Statistics Act. Assisted immigration to New South Wales re-introduced.

Population of Australia reached 4,000,000.

1906

Papua taken over by the Commonwealth of Australia.

1907

First telephone trunk line service between the capital cities. Imperial Conference in London.

1908

Canberra chosen as the site of the Australian Capital.

1909

Imperial Defence Conference in London. Queensland University founded. The Commonwealth Age Pension Scheme introduced.

1910

Penny postage. Australian Notes Act passed and the first Commonwealth notes issued. Arrival of the first vessels built for the Royal Australian Navy, the *Yarra* and the *Parramatta*.

1911

First Commonwealth Census taken. The Australian Capital Territory and the Northern Territory transferred to the Commonwealth. Compulsory military training introduced.

1912

Commonwealth Bank opened. First payments of Maternity Bonus. University of Western Australia founded.

1913

Canberra officially named as the Australian Capital and the foundation stone laid.

1914

Norfolk Island transferred to the Commonwealth. War declared in Europe on 4 August. Australian and New Zealand Army Corps (ANZAC) formed. Australia's first aerial mail, flown from Melbourne to Sydney.

1915

ANZAC troops landed at Gallipoli, 25 April. Evacuated 18–20 December. Commonwealth Census planned but shelved. Broken Hill Proprietary's ironworks at Newcastle, New South Wales, opened.

1916

Australian and New Zealand mounted troops in Egypt, Palestine and Syria. First proposal for compulsory military service overseas defeated by referendum.

1917

Second referendum on conscription for overseas service defeated. Transcontinental railway completed.

1918

Australian divisions in France blunt the German offensive. Australia House opened in London. Armistice with Germany, 11 November.

Australia's population reached 5,000,000.

1919

Peace Conference. Peace Treaty signed at Versailles, 28 June. Flight from England to Australia by Captain Ross Smith and Lieutenant Keith Smith.

1920

Imperial Statistical Conference in London. Qantas began operations.

1921

Mandate given to Australia over the Territory of New Guinea. Second Commonwealth Census.

1922

Queensland Legislative Council abolished.

1923

First Australian radio broadcast.

1925

Australian population reached 6,000,000.

1926

Council for Scientific and Industrial Research (CSIR) established.

1927

Seat of Commonwealth Government transferred from Melbourne to Canberra.

1929

Peace-time compulsory military training abolished in favour of a voluntary system.

1930

World-wide economic depression reached Australia. First Australian appointed Governor-General of Australia (Rt Hon. Sir Isaac Alfred Isaacs, GCMG, Chief Justice of the High Court).

1932

Sydney Harbour Bridge opened. The Australian Broadcasting Commission established. Imperial Economic Conference held in Ottawa.

1933

World Economic Conference held in London. Antarctica and Ashmore and Cartier islands taken over by the Commonwealth. Third Commonwealth Census.

1934

England–Australia Air Mail Service inaugurated.

1935

Empire Statistical Conference at Ottawa.

1936

Tasmania linked with the mainland by submarine telephone cable.

1937
Imperial Conference in London.

1938
New trade treaty with Japan.

1939
War declared on Germany, 3 September. Australian troops embarked for the Middle East, 15 December.

Australia's population reached 7,000,000.

1940
Exchange of Ministers between Australia and the United States marked Australia's entry into the field of direct diplomatic representation with countries other than the United Kingdom. First Australian convoy sailed for Middle East.

1941
Australian Eighth Division arrived in Malaya. Japanese attacked Pearl Harbour, Malaya, Thailand, Hong Kong and the Philippines. Australia declared war on Japan, 9 December. Establishment of Child Endowment scheme.

1942
General Douglas Macarthur set up headquarters of South West Pacific Command in Melbourne. Battle of the Coral Sea. Federal uniform taxation adopted. Commonwealth widows' pension introduced.

1944
Referendum refused Commonwealth Government increased power in the post-war period.

1945
Australia ratified the United Nations Charter. War in Europe ceased, 8 May. War in Pacific ceased, 15 August. Banking Act introduced to regulate banking and to protect the currency and public credit.

1946
The Commonwealth Employment Service inaugurated. Trans Australian Airlines began operations. Constitution Alteration Referendum granted powers with regard to social services to the Commonwealth Government.

1947
End of demobilisation. Census of Australia held.

1948
Forty-hour week effective throughout Australia. First Holden motor car produced.

1949
Nationality and Citizenship Act operative. Certain Aboriginals granted franchise at Federal elections for the first time. Coal miners strike over hours, wages and leave claims. Australian Whaling Commission established. The Snowy Mountains Hydro-electric Power Scheme commenced.

Australia's population reached 8,000,000.

1950
Severe floods in New South Wales. Australian forces joined the British Commonwealth Brigade in the Korean War. Conference of Commonwealth Prime Ministers in London.

1951
Jubilee celebrations marked the fiftieth year of Australian Federation. Heard Island and the McDonald Islands transferred to the Commonwealth. Hostilities with Germany officially ceased. Japanese Peace Treaty signed. Third Conference of Government Statisticians of the British Commonwealth held in Canberra.

1952
Widespread bushfires in Victoria, New South Wales and the Australian Capital Territory. Third British Commonwealth Scientific Official Conference held in Canberra and Melbourne. Uranium deposits discovered at Rum Jungle, Northern Territory. British detonate atomic weapon on Monte Bello Islands off the north-west coast. British Commonwealth Economic Conference in London.

1953
Television Act authorised the establishment of both Government and Commercial television stations. Northern Territory Aboriginals given citizenship rights. Atomic Energy Commission established. Korean armistice signed.

1954
Australian Census taken. Transfer of Cocos Islands to the Commonwealth proposed. Queen Elizabeth II became the first reigning monarch to visit Australia.

1955

Food and Agriculture Organization Conference held in Brisbane. Australian troops sent to Malaya. Cocos (Keeling) Islands became a Commonwealth Territory. First power generated by the Snowy Mountains Hydro-electric Authority.

Australian population reached 9,000,000.

1956

Olympic Games held in Melbourne. Bilateral agreement signed between Australia and the United States for peaceful uses of atomic energy. Regular television transmissions commenced.

1958

Lucas Heights nuclear reactor opened near Sydney. Christmas Island transferred to Commonwealth administration.

1959

Population of Australia reached 10,000,000.

1960

Provision made for Social Service benefits to be paid to Australian Aboriginals.

1961

Oil is discovered in south-west Queensland. Iron-ore deposits estimated at 1,800 million tons discovered at Pilbara, Western Australia. Population Census taken.

1962

Commonwealth and Western Australian Electoral Acts amended to provide for votes for Aboriginals. Aboriginals exercise voting rights in the Northern Territory for first time.

1963

Australia signed Nuclear Test Ban Treaty.

Australian population reached 11,000,000.

1964

RAN Destroyer *Voyager* sunk in collision. Army send advisers to Vietnam.

1965

Royal Australian Mint opened. Australian troops go to war in Vietnam. First trade agreement between Australia and the USSR. Economic sanctions imposed on Rhodesia.

1966

Australia adopted decimal currency. Census of population held. Permanent employment of married women by Australian Government proclaimed.

1967

Worst bushfires in the history of Tasmania damaged Hobart and southern Tasmania. New white ensign adopted by the RAN. Australia launched its first satellite at Woomera.

1968

Australian population reached 12,000,000.

1969

The Arbitration Commission handed down its decision on equal pay for women. Bass Strait under-sea oil piped to shore for the first time.

1970

Australia signed the Nuclear Non-Proliferation Treaty. Coal miners in three States are awarded a 35 hour working week. Voting age reduced to 18 in Western Australia.

1971

Australia joined the OECD. Population Census held. Australian troops withdrew from Vietnam. Daylight saving adopted in New South Wales, Victoria and the Australian Capital Territory.

Australian population reached 13,000,000.

1972

Female employees received full entitlement to equal pay. Celsius adopted in lieu of the Fahrenheit thermal measure. Australian Labor Party won Federal election for first time in 23 years. Australia established diplomatic relations with the People's Republic of China and the German Democratic Republic.

1973

Papua New Guinea attained self-government. All tariffs cut by 25 per cent. First meeting of the Aboriginal Consultative Committee.

1974

Major floods and storms caused damage in the eastern States. Cyclone Tracey hits Darwin. Plans announced for maximum security laboratory to protect livestock against exotic diseases. Colour television introduced.

1975

Medibank introduced. Federal Parliament dissolved and the Australian Labor Party defeated at a general election on 13 December. Papua New Guinea ceased to be an Australian territory and became an independent nation. Australia Council created.

1976

Census of Australia held. Australian Savings Bonds introduced.

Australian population reached 14,000,000.

1977

Aboriginal Land Rights Act passed. Granville rail disaster claimed 80 lives.

1978

Northern Territory gained self-government. Federal Government recognised the absorption of Timor into Indonesia. 'Boat people', refugees from Indo–China arrived in large numbers.

1979

Series of serious strikes in opposition to Fraser Government's economic policies. Severe bushfires threatened Sydney. Tasmanian Hydro-Electric Commission released a report recommending a massive power development scheme in south-west Tasmania, sparking the commencement of the controversial 'Save the Franklin' campaign.

1980

Whale Protection Act passed. Multicultural television broadcasting commenced. Drought takes hold across Australia. Fraser Government returned to office.

1981

Census of Australia held. (Campbell) Committee of Inquiry into the Australian Financial System recommended deregulation.

Australian population reached 15,000,000.

1982

Australian economy depressed. Severe drought in the eastern States. Australian National Gallery opened in Canberra. Commonwealth Games held in Brisbane. Freedom of Information Act became operative.

1983

General election held, resulting in an Australian Labor Party victory. Australia won the Americas Cup. Severe bushfires in Victoria and South Australia. Medicare introduced. Prices Surveillance Authority created. Cocos (Keeling) Islanders voted to integrate with Australia. Royal Commission into British Nuclear Tests in Australia established.

1984

Nuclear Disarmament Party (NDP) formed. Hawke Government returned to office. Referenda on State–Commonwealth transfer of powers and the simultaneous election of the House of Representatives and the Senate rejected. Parliament increased in size: House of Representatives from 125 to 148 and Senate from 64 to 76. World's first frozen embryo baby born in Melbourne.

1985

Ban placed on uranium exports to France. Substantial deregulation of the banking system. Economic summit on tax reform. Split in the Nuclear Disarmament Party. Report of the Royal Commission into British Nuclear Tests in Australia tabled in Parliament.

1986

Constitutional severance from the United Kingdom. Car bomb exploded at Turkish Consulate in Melbourne. Census held. Sighting of Halley's Comet. Twelve miners died in a mine cave-in at Moura, Queensland. Bomb exploded at Melbourne Police Headquarters. Pope visited Australia. Aussat launched.

Australia's population reached 16,000,000.

1987

Hawke Government returned to power in July general election. Australia lost Americas Cup. Prime Minister Hawke announced plans to streamline government administration.

1988

Bicentennial Year. Celebrations included the re-enactment of the First Fleet's voyage and the staging of Expo 88 in Brisbane. Referendum held on four Constitutional amendments soundly defeated.

1989
Thirteen people died in Australia's first ballooning accident. Two major bus accidents on the Pacific Highway claimed the lives of 55 people. Thirteen people died and over 130 injured in Newcastle earthquake. Pilots dispute disrupted air travel for three months.

Sources: Keesing's Contemporary Archives: Record of World Events. The Annual Register: A Record of World Events. Year Book Australia. Acts of the Parliament of the Commonwealth.

The Exploration of Australia

Early exploration

From 1788, when Governor Phillip established his colony on the shores of Port Jackson, expeditions began to explore the immediate area of settlement in search of good farming land. Among suitable locations discovered were those just above the head of the Parramatta River, where the settlement of Rose Hill (later Parramatta) was established in November 1788, and the alluvial flats of the Hawkesbury River, which were explored in 1789.

Other minor exploratory journeys in the 1790s and early 1800s included: John Wilson's investigation of various parts of the Southern Highlands of New South Wales, Lieutenant John Shortland's discovery of the Hunter River and the future site of Newcastle, and expeditions by Henry Hacking (1794), George Bass (1796), Francis Barrallier (1802) and George Caley (1804) in attempts to penetrate the mountain foothills west of the Nepean River.

After two decades of colonisation, settlement stretched along the east coast from the Hawkesbury River to the cedar forests of Illawarra yet reached barely 65 kilometres inland, where a seemingly impenetrable barrier was presented in the form of the Blue Mountains.

In 1813 Gregory Blaxland, Lieutenant William Lawson and William Charles Wentworth succeeded in finding a route through the mountain range, thereby allowing the later exploratory parties of George William Evans (1813 and 1815), John Oxley (1817 and 1818), Allan Cunningham (1823 and 1827), Hamilton Hume and William Hovell (1824) and others, to open the way for expansion from Port Phillip in the south, to the Darling Downs in the north.

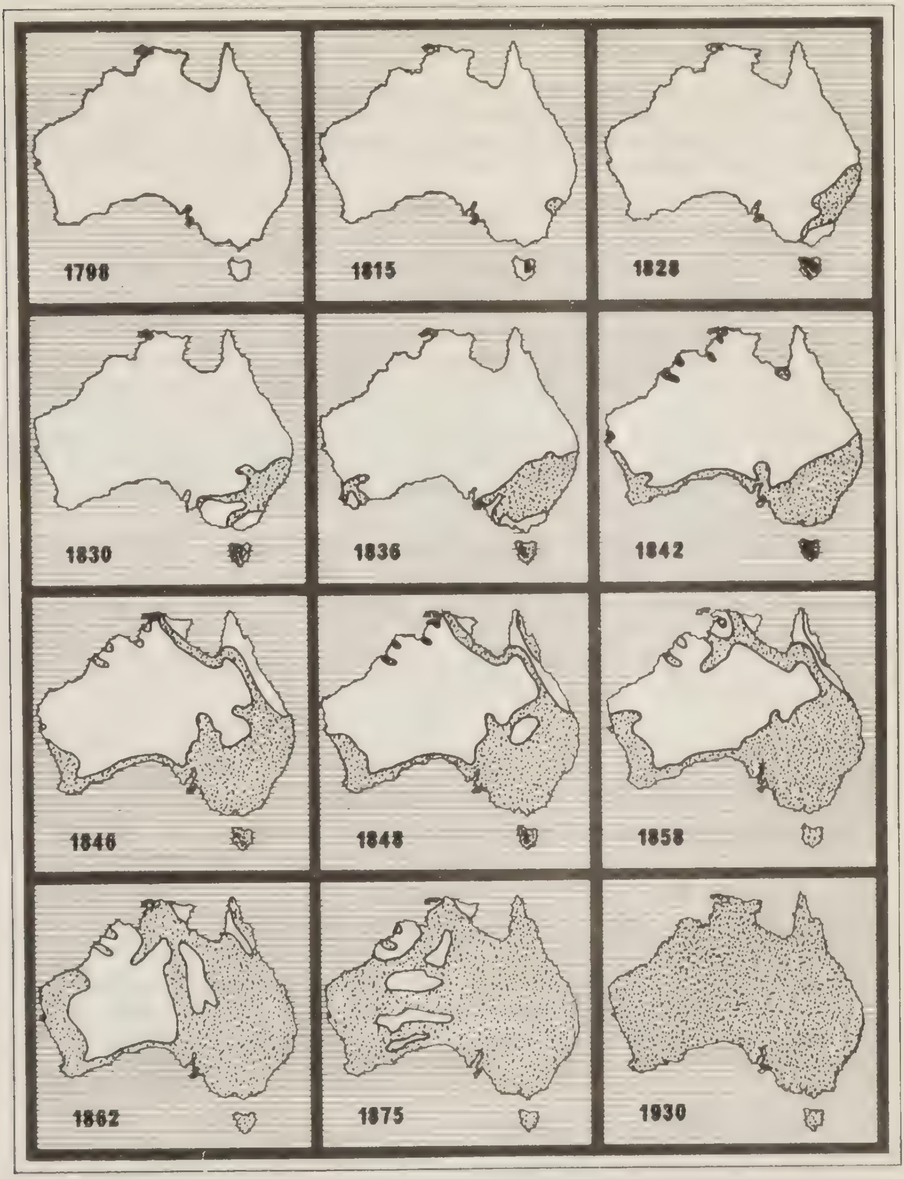
The eastern rivers and to the south

From 1828 to 1841, exploration of south-eastern Australia was concerned mainly with establishing whether or not a large river system emptying into the sea on the south coast existed.

Between December 1828 and February 1829, an expedition led by Charles Sturt followed the Macquarie River to its meeting with the Darling River. Sturt also explored part of the Castlereagh River. On his next expedition, in 1830, Sturt pieced together more of the network of waterways which make up the Murray–Darling system by following the Murrumbidgee River from Jugiong down to the junction with the Murray, which he then followed as far as Lake Alexandrina and Encounter Bay on the southern coastline. Sturt completed his exploration of the Murray in 1838 by investigating and charting its upper reaches.

Meanwhile, Captain John Macarthur and others had discovered that merino sheep were naturally suited to the dry climate of inland Australia. The colony's wool industry flourished, and by 1831, 1,340 tonnes of fine wool was being exported annually. As a result of the wool boom, settlers became anxious to push further inland in the search for new pastures.

In three expeditions between 1831 and 1836, Thomas Livingston Mitchell explored the Liverpool Plains and discovered the Macintyre River; discovered well-grassed country at the junction of the Darling and Bogan rivers; explored the Lachlan River to its meeting


1798
1815
1828
1830
1836
1842
1846
1848
1858
1862
1875
1930

with the Murrumbidgee River, the Murray with its meeting with the Darling River, and south and south-east of the Murray through the region called 'Australia Felix' to Discovery Bay on the southern coast.

The push south continued and, in 1838, Angus McMillan discovered a practicable route from Monaro to the southern coastline. In 1840, Paul Edmund de Strzelecki made a journey from the Murrumbidgee River, south to Melbourne, during which he discovered and named Mount Kosciusko.

The south

In 1831 Captain Collet Barker landed at what was to become Port Adelaide. Later, cattle-droving journeys undertaken by Joseph Hawdon, Charles Bonney, Charles Sturt and E.J. Eyre, established links between the settlement of Adelaide and other settlements in the east of the State.

In August 1844 Charles Sturt led a sixteen-man expedition from Adelaide into the interior with instructions to investigate a theory that an inland sea existed. After much hardship and near disaster during a period of exceptional heat in the region, Sturt found the channels of Cooper's Creek which formed part of the inland river system of Queensland. However, with the waters drying up rapidly in November 1845, heat and his health deteriorating, Sturt was forced to retreat, mistakenly declaring the land to be worthless.

North-eastern Australia

In 1844 Ludwig Leichhardt left Jimbour Station on the Darling Downs, to lead an expedition on an epic fourteen and a half month, 4,800 kilometre journey north and north-west to Port Essington, thereby winning a reputation for opening up large tracts of rich grazing land. In 1848 however, while on another expedition, he and his party disappeared without trace when attempting to cross the continent westwards to Perth. Ironically, much valuable incidental exploration was carried out when search parties attempted to find them.

Meanwhile, Thomas Mitchell's fourth expedition in 1846 had failed in its objective to find a river which flowed to the northern coast, but did lead to the opening up of good pastoral country in the Maranoa and Barcoo Rivers regions.

In 1848 E.B. Kennedy was speared to death by local Aboriginals while exploring the interior of Cape York Peninsula from Rockingham Bay to the Cape.

In the mid to late 1850s, Angus C. Gregory led two expeditions: one, in 1855 across northern Australia in a west–east direction from the mouth of the Victoria River to the east coast at Port Curtis; and the other, in 1858, from the Barcoo River south to Adelaide.

Exploration of what was by then the new colony of Queensland was continued through the 1860s and 1870s by George Dalrymple, Ernest Henry, the Macdonald brothers, William Hann, James Venture Mulligan, R.L. Jack and others. These led to the founding of such towns as Bowen, Rockhampton and Mackay, and the opening up of much valuable farming land.

Across the continent south to north

In the late 1850s and early 1860s most exploratory interest was concentrated on Central Australia, especially after John McDougall Stuart raised a Union Jack on what he considered to be the geographic centre of the continent, Central Mount Stuart, in April 1860. The South Australian Government had previously offered a large reward to the first explorer to cross Australia from south to north.

In August 1860 Robert O'Hara Burke and W.J. Wills set out from Melbourne with a large party to take up the challenge. On 11 February 1861, four expedition members (Burke, Wills, John King and Charles Gray) reached a mangrove swamp on what appeared to be the coast at the Gulf of Carpentaria (though they could not see the sea). After a succession of sorry incidents, however, Burke, Wills and Gray all died of exposure and starvation while on their return journey.

As in the case of Leichhardt, search parties sent out after Burke and Wills discovered much valuable land in their own right; John McKinlay led an expedition from Adelaide to the north-east; William Landsborough from the Gulf of Carpentaria southward; and Frederick Walker from Rockhampton to the west.

Meanwhile, John McDougall Stuart had set out from Adelaide on his own expedition across Australia and, in July 1862, reached the sea at Van Diemen Gulf.

The west

As early as 1697, Willem de Vlamingh of the Dutch ship *Geelvinck*, carried out limited inland exploration on the west coast of Australia in the vicinity of the Swan River. However, the first major inland exploration in the colony of Western Australia took place 130 years later when, in 1827, Edmund Lockyer explored the watershed of the Kalgan River to within about 60 kilometres of its mouth.

In the 1830s exploration and settlement were directed mainly to the south of the city of Perth (founded in 1829). Among the explorers during this decade were: Ensign Robert Dale, who found the rich agricultural land of the Avon Valley (1830); Lieutenant H.W. Bunbury, who opened the way to rich pastoral flats in the south-west (1836); and Captain George Grey, who discovered the rich hinterland that now serves Geraldton (1839).

In 1848 J.S. Roe, who had also conducted several exploratory journeys in the 1830s, discovered good grazing country while on a 2,900 kilometre York–Pallinup River, Russell Range–Bunbury–Perth trek.

During the 1850s and 1860s the south-west was extensively occupied as far south as Albany and Kojonup, while to the north the Greenough district rapidly developed into the principal wheat-producing region of the State.

Due largely to the efforts of Grey in the 1830s, the Gregory brothers in the 1840s, 1850s and 1860s, and the Forrest brothers in the 1860s and 1870s, pastoralists were able to gradually push further north and occupy the Murchison, Gascoyne and De Grey districts. By the 1880s, again due largely to exploration by the Forrest brothers, the Kimberley region was also settled.

The hinterland

In 1875 Ernest Giles set out from Beltana, South Australia, and made a 4,000 kilometre journey to Perth. Two years earlier, two other parties, led by Peter Egerton Warburton and W.C. Gosse, had explored west from the MacDonnell Ranges to the Oakover River, and from Alice Springs to Perth respectively.

Exploration of the hinterland was continued by W.P. Goddard (1890), J.H. Rowe (1895), A.W. Canning and others into the early twentieth century.

Tasmania

In 1793 Lieutenant John Hayes, commander of the *Duke of Clarence* expedition, sailed up the Derwent River to the foot of Mount Direction from where he proceeded by boat up to the present site of New Norfolk. He became the first explorer to journey more than a few kilometres inland from the coast of Van Diemen's Land (by which name Tasmania was known until 1856). Then, as always, the island's rugged topography hindered any extensive exploration, and it was not until 1807 that Lieutenant Thomas Laycock crossed the island from Port Dalrymple to Hobart.

Much early exploration was carried out either with the encouragement of Lieutenant-Governor William Sorell (including expeditions aimed primarily at discovering the nature of the west coast and determining its suitability for a future penal settlement), or under the auspices of the Van Diemen's Land Company which fostered efforts to find land suitable for agricultural settlement.

Some of the most noteworthy of Tasmania's early explorers were official surveyors, including John Oxley, G.W. Evans and Thomas Scott who, between 1820 and 1837 examined parts of the east, north-west and west coasts and, no doubt, influenced decisions to establish the infamous penal settlements at Macquarie Harbour (in 1822) and Port Arthur (in 1830).

Between 1820 and 1840, a considerable amount of incidental exploration resulted, both from expeditions to round up the remaining Tasmanian Aboriginals following the declaration of martial law against them in 1828, and from the personal encouragement by Lieutenant-Governor Sir John Franklin of scientific expeditions to Tasmania in the late 1830s and early 1840s.

During 1840 and 1850, licensed surveyor N.L. Kentish was responsible for opening up the rich pastoral areas between the north-west coast and the high mountains, while Assistant-Surveyor James Scott explored much of the north-east.

The 1860s and 1870s were marked by a number of exploratory journeys in search of minerals, including those of Charles Gould (1862), who found traces of silver, lead and gold in the Franklin and Gordon Valleys; James Smith (1871), who discovered tin at Mount Bischoff, destined to become the richest mine of its kind in the world; and C.P. Sprent (1876–77), who found gold, copper, osmiridium and platinum while prospecting between the Arthur and Pieman Rivers.

The Federal Movement in Australia

Due to the size of the Australian continent and the circumstances surrounding the establishment of the various settlements, the initial tendency was toward individual evolution of the separate colonies. However, it was not long before the importance of intercolonial relationships was clearly recognised.

Governor Fitzroy, in 1846, and Earl Grey, in 1847, saw that there were questions which affected 'Australia collectively, the regulation of which in some uniform manner, and by some single authority, may be essential to the welfare of them all', and a 'central legislative authority for the whole of the Australian colonies' was actually contemplated. Even as far back as 1849, a Privy Council Committee recommended a uniform tariff, and the constituting of one of the Governors as Governor-General of Australia, Sir Charles Fitzroy being actually appointed as 'Governor-General of all her Majesty's Australian Possessions'. The office, however, was nominal rather than actual, and expired in 1861. Dr Lang's idea of 'a great federation of all the colonies of Australia' was put forward in 1852, and a Victorian committee in 1853 advocated the value of a General Assembly of Delegates for the whole of Australia.

The need of union was urged by the *Sydney Morning Herald* in 1854, and although Wentworth sought in 1857 to bring about the creation of a Federal Assembly, a draft 'Enabling Bill' proved unacceptable to Her Majesty's Government. In the same year Mr (afterwards Sir) Charles Gavan Duffy secured the appointment of a select committee of the Victorian Legislative Assembly to consider the necessity of a federal union of the Australasian colonies. The need for such a union was unanimously affirmed, the general opinion being that it should not be longer delayed. In the same year, a select committee of the New South Wales Legislative Council also considered this question, fully recognizing that antagonisms and jealousies were likely to arise through delay.

Union was a fair way towards realisation when the advent of the Cowper Administration destroyed all chance of attaining it, owing to the antagonism of Mr Cowper and Mr (afterwards Sir) James Martin. South Australia, also in the same year, and Queensland in

1859, were both unfavourable to the federal scheme. A second attempt by Mr Duffy to bring about a conference in 1860 failed also.

Tariff differences, however, compelled political attention to the matter, and in 1862 correspondence was opened up by South Australia regarding tariff uniformity. By means of Intercolonial Conferences between 1863 and 1880 some degree of uniformity in legislation and a measure of concerted administration were realised. In March 1867, Mr (afterwards Sir) Henry Parkes expressed himself as follows:

> . . . The time has arrived when these colonies should be united by some federal bond . . . There are questions projecting themselves . . . which cannot be dealt with by . . . individual Governments . . . I believe it will lead to a permanent federal understanding.

The Federal Council

The conference of November–December 1880 and January 1881 recommended the creation of a federal council, believing that the time had not arrived for a federal constitution with a federal parliament. Until 1883, however, every effort proved abortive. In November of that year, a convention, at which the seven colonies and Fiji were represented, met in Sydney. A Bill to establish the Federal Council for Australasia, drafted by Mr (later Sir) Samuel Griffith was, after some modification by a committee of the convention, adopted. In July and August 1884, the Crown was addressed, requesting the enactment of a Federal Council Act. New South Wales and New Zealand, however, endorsed the view of Sir Henry Parkes that a 'Council' would impede the way for a sure and solid federation. The Bill, introduced by the Earl of Derby in the House of Lords on 23 April 1885, became law on 14 August as *The Federal Council of Australasia Act 1885*. The Council's career, however, soon showed that it could not hope to be effective and it met for the last time in January 1899.

Formative stages of the federal movement

As early as 1878, the necessity for federal defence was vividly brought into Australian consciousness, and arrangements for naval protection were entered into with the Imperial Government. These were ratified by the Australasian Naval Force Act. Queensland however, did not come into line until 1891.

Early in 1889, Sir Henry Parkes had suggested to Mr Duncan Gillies the necessity for a federal parliament and executive. Unable to accept the latter's suggestion that New South Wales should give its adhesion to the Federal Council, the former Statesman urged the institution of 'a National Convention for the purpose of devising and reporting upon an adequate scheme of Federal Government'. This led to the Melbourne Conference of 6 February 1890. It was at the banquet of this occasion that, in proposing 'A United Australasia', Mr James Service pointed out that the tariff question was 'a lion in the path', which federationists must either slay or by which they must be slain. In the reply Sir Henry Parkes made use of his historic phrase, 'the crimson thread of kinship runs through us all'. Certain elements of doubt being expressed as to the motives underlying the movement, Sir Henry Parkes said:

> We desire to enter upon this work of Federation without making any condition to the advantage of ourselves, without any stipulation whatever, with a perfect preparedness to leave the proposed convention free to devise its own scheme, and, if a central Parliament comes into existence, with a perfect reliance upon its justice, upon its wisdom, and upon its honour . . . I think an overwhelming majority of my countrymen . . . will approve of the grand step . . . uniting all the colonies under one form of beneficient government, and under one national flag.

The first National Australasian Convention, under Sir Henry Parkes' presidency, was convened on 2 March 1891, all the Australian colonies and New Zealand being represented. The Bill then drafted was considered by the Parliaments of New South Wales, Victoria, South Australia and Tasmania, but not by those of Queensland, Western Australia and New Zealand, and though the parliamentary process of dealing with the matter failed, federal sentiment was strengthening. The collapse of the 'land boom' had made apparent how intimately the interests of the several colonies were related, and the dangers of disunion became impressively obvious. The Australian Natives' Association took up the federal cause with enthusiasm, Federation leagues were established, the issues were widely and intelligently discussed. The unification scheme of Sir George Dibbs helped to make the issue a real one.

At the Conference of Premiers at Hobart on 29 January 1895, it was agreed that Federation 'was the great and pressing question of Australian politics', and that 'the framing of a Federal Constitution' was an urgent duty. The resuscitation of the whole matter led to the passing of Enabling Acts. In New South Wales, the Act received the Royal assent on 23 December 1895; South Australia anticipated this by three days; the Tasmanian Bill was passed on 10 January 1896; the Victorian on 7 March 1896 and Western Australia fell into line on 27 October 1896. The 'People's Federal Convention' held at Bathurst, New South Wales, in November 1896, gave a considerable impulse to the movement; to wait longer for Queensland was considered unnecessary, and 4 March 1897 was fixed as the date for the election of federal representatives for New South Wales, Victoria, South Australia and Tasmania. Western Australia followed suit, and on 22 March the representatives met at Adelaide.

The discussions made it evident that the federal point of view had advanced considerably. Constitutional, Finance, and Judiciary Committees were appointed, and a Bill was drafted. This, reported to the Convention on 22 April, was adopted on the following day, and the Convention adjourned until September. The Parliaments of New South Wales, Victoria, South Australia, Tasmania and Western Australia discussed the question before the Sydney Session of the Convention, which opened on 2 September 1897. The business of the Convention involved the general reconsideration of the whole Bill, and the consideration of no less than 286 suggested amendments. This work gave a definite character to that of the Melbourne Session of 1898, extending from 20 January to 17 March, the necessity for reaching a final decision giving weight to its deliberations.

Votes on the question of Federation

Eleven weeks after this last convention the first popular vote was taken on Federation in New South Wales, Victoria, South Australia and Tasmania. Though the decision was overwhelmingly in favour of Federation in three of the States, and there was a distinct majority in its favour in New South Wales, the majority was legally insufficient. On 22 January 1899, the Premiers of the six colonies met at Melbourne in a conference initiated by the Right Honourable G.H. Reid, PC, and seven amendments were made to the Bill. This step virtually effected the solution of the few outstanding difficulties which could in any way be regarded as fundamental.

On the occasion of the second popular vote, Queensland also joined in. The general majority in favour of Federation was more than doubled, that for New South Wales itself having been more than quadrupled when compared with the first vote. The following table shows the two results.

VOTES FOR AND AGAINST FEDERATION

Votes		*NSW*	*Vic.*	*SA*	*Tas.*	*Qld*	*Total*
1st Vote	For Federation	71,595	100,520	35,800	11,797	—	219,712
	Against	66,228	22,099	17,320	2,716	—	108,363
	Majority	5,367	78,421	18,480	9,081	—	111,349
2nd Vote	For Federation	107,420	152,653	65,990	13,437	38,488	377,988
	Against	82,741	9,805	17,053	791	30,996	141,386
	Majority	24,679	142,848	48,937	12,646	7,492	236,602

Enactment of the Constitution

The Secretary of State for the Colonies (the Right Honourable Joseph Chamberlain), on 22 December 1899 expressed the hope that a delegation of the federating colonies would visit England on the occasion of the submission of the Commonwealth Bill to the Imperial Parliament. The delegation consisted of Mr (later Sir) Edmund Barton (NSW), Mr Alfred Deakin (Vic.), Mr C.C. Kingston (SA), Sir P.O. Fysh (Tas.), and later Mr S.H. Parker was appointed delegate for Western Australia, and Mr W.P. Reeves for New Zealand. After discussion as to whether there should be some modification in the Bill, it was introduced into the House of Commons on 14 May; the second reading was moved on 21 May; the discussion in committee commenced on 18 June; and the Royal assent was given on 9 July 1900.

On 31 July a referendum in Western Australia on the question of federating gave the result: For, 44,800; against, 19,691; that is a majority of 25,109 in favour of union. On 21 August both Houses of Parliament in that State passed addresses praying that it might be included as an original State of the Commonwealth.

On 17 September 1900, Her Majesty Queen Victoria signed the proclamation declaring that on and after the first day of January 1901, the people of New South Wales, Victoria, South Australia, Queensland, Tasmania and Western Australia should be united in a federal Commonwealth, under the name of the Commonwealth of Australia.

More detail on the federal movement can be found in *Year Book* No. 1.

The Establishment of the Commonwealth of Australia

On 1 January 1901, the designation of 'Colonies'—except in the case of the Northern Territory, to which the designation 'Territory' applied—was changed to that of 'States'.

Transfer of the Northern Territory to the Commonwealth

On 7 December 1907, the Commonwealth and the State of South Australia entered into an agreement for the transfer of the Northern Territory to the Commonwealth, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the *Northern Territory Surrender Act 1907* and by the Commonwealth Parliament under the *Northern Territory Acceptance Act 1910*. The Territory was formally transferred to the Commonwealth on 1 January 1911, and became the Northern Territory of Australia.

Transfer of the Australian Capital Territory to the Commonwealth

On 18 October 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 2,359 square kilometres as the Seat of Government of the Commonwealth. In December 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on 5 December 1910 a proclamation was issued vesting the Territory in the Commonwealth on and from 1 January 1911.

By the *Jervis Bay Territory Acceptance Act 1915*, an area of 73 square kilometres at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was also accepted by the Commonwealth and was transferred as from 4 September 1915.

Composition of Australia

In 1973, the total area of Australia and of the individual States and Territories was determined by the Division of National Mapping as 7,682,300 square kilometres. Some historical dates and the present areas of the several States and Territories and of Australia are shown in the following table.

AUSTRALIA: COMPONENT STATES AND TERRITORIES

State or Territory	*Year of annexation*	*Year of first permanent settlement*	*Year of formation into separate colony or Territory*	*Year in which responsible government was granted*	*Present area in km^2*
New South Wales	1770	1788	1786	1855	801,600
Victoria	1770	1834	1851	1855	227,600
Queensland	1770	1824	1859	*(a)*1859	1,727,200
South Australia	1788	1836	1834	1856	984,000
Western Australia	1829	1829	1829	1890	2,525,000
Tasmania	1788	1803	1825	1855	67,800
Northern Territory	..	..	*(b)*1863	..	1,346,200
Australian Capital Territory	..	..	*(c)*1911	..	2,400
Australia	..	..	..	*(d)*	**7,681,800**

(a) As Part of New South Wales in 1855; as a separate colony in 1859. *(b)* Previously part of New South Wales; brought under the jurisdiction of South Australia in 1863; transferred to the Commonwealth in 1911. *(c)* Previously part of New South Wales. *(d)* Constituted as from 1 January 1901.

2

GOVERNMENT

Parliamentary Government

Scheme of parliamentary government

Under the Australian Constitution the legislative power of the Commonwealth of Australia is vested in the Parliament of the Commonwealth, which consists of the Queen, the Senate and the House of Representatives. The Queen is represented throughout the Commonwealth by the Governor-General. In each Australian State there is a State Governor, who is the representative of the Queen for the State. The Governor has such powers within the State as are conferred upon him by the Letters Patent constituting his office, and he exercises these powers in accordance with instructions issued to him by the Queen, detailing the manner in which his duties are to be fulfilled.

No Act of the Parliament of the United Kingdom passed after the commencement of the *Australia Act 1986* extends, or is deemed to extend, to the Commonwealth of Australia or to an Australian State or Territory as part of the law of the Commonwealth, of the State or of the Territory. Further, the restrictions that formerly existed on the legislative powers of the Parliaments of the States were removed by the Act.

In the Commonwealth Parliament the Upper House is known as the Senate, and in the bicameral State Parliaments as the Legislative Council. The Legislature in all States was bicameral until 1922 when the Queensland Parliament became unicameral upon the abolition of the Upper House. In the Commonwealth Parliament the Lower House is known as the House of Representatives; in the State Parliaments of New South Wales, Victoria and Western Australia as the Legislative Assembly; and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The single House of Parliament in Queensland is known as the Legislative Assembly. The extent of the legislative powers of each of the seven Parliaments is defined by the Australian and State Constitutions respectively. In those States that have a bicameral legislature, the Legislative Assembly or House of Assembly, as the case may be, is the larger House.

The members of the Parliaments of each State are elected by the people, the franchise extending to Australian citizens who are at least 18 years of age and possess certain residential qualifications. For the Commonwealth Parliament the qualifications for the franchise are identical for both Houses, extending to Australian citizens and British subjects who are on the Commonwealth Electoral Roll and who are not less than 18 years of age.

The Sovereign

On 7 February 1952 the then Governor-General of the Commonwealth of Australia, acting with advice of members of the Federal Executive Council, proclaimed Princess Elizabeth as Queen Elizabeth the Second, Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia. The coronation of Her Majesty took place in Westminster Abbey on 2 June 1953. By the *Royal Style and Titles Act 1973*, which Her Majesty assented to in Canberra on 19 October 1973, the Commonwealth Parliament assented to the adoption by Her Majesty, for use in relation to Australia and its Territories, of the Style and Titles set out in the Schedule to that Act. On the same day, also in Canberra, Her Majesty issued a Proclamation, under the Great Seal of Australia, appointing and declaring that Her Majesty's Style and Titles should henceforth be, in relation to Australia and its Territories, 'Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth'.

The Governor-General

Powers and functions

Under the Australian Constitution, the Governor-General exercises the executive power of the Commonwealth of Australia, and certain other powers and functions conferred by the Constitution that include, among others, the powers to appoint times for holding the sessions of the Parliament, to prorogue Parliament, and to dissolve the House of Representatives; to cause writs to be issued for general elections of members of the House of Representatives; to assent in the Queen's name to a proposed law passed by both Houses of the Parliament; to choose and summon Executive Councillors, who hold office during the Governor-General's pleasure; and to appoint Ministers of State for the Commonwealth of Australia. In addition, the command-in-chief of the Defence Force of the Commonwealth of Australia is vested in the Governor-General as the Queen's representative.

Many Acts of the Commonwealth Parliament provide that the Governor-General may make regulations to give effect to the Acts. The Governor-General may also be authorised by statute to issue proclamations for example, to declare an Act in force. He has been given power by statute to legislate for certain of the Australian Territories. Under the provisions of the Constitution, as well as by the conventions of responsible government in British Commonwealth countries, the Governor-General's executive functions are exercised on the advice of Ministers of State.

The present Governor-General is His Excellency the Honourable William George Hayden AC, who replaced Sir Ninian Martin Stephen, AK, GCMG, GCVO, KBE on 16 February 1989.

Holders of office

Those persons who have held the office of Governor-General from the inception of the Commonwealth of Australia are pictured in *Year Book* No. 71.

Administrators

In addition to the holders of the office of Governor-General, certain persons have, from time to time, been appointed by the Queen to administer the Government of the Commonwealth of Australia. These persons are appointed in the event of the death, incapacity, removal from office or absence from Australia of the Governor-General.

Governors of the States

Powers and functions

The Queen is represented in each of the Australian States by a Governor, the office having been constituted by Letters Patent issued under the Great Seal of the United Kingdom on various dates. The Governors of the States exercise prerogative powers conferred on them by these Letters Patent, their commissions of appointment and the Governor's Instructions given them under the Royal Sign Manual and Signet or other instrument, as specified in the Letters Patent. In addition, they have been invested with various statutory functions by State Constitutions and the Commonwealth *Australia Act 1986*, as well as under the Acts of the Parliaments of the States.

A Governor of a State assents in the Queen's name to Bills passed by the Parliament of the State. Since the enactment of the Australia Act, an Act of Parliament of a State that has been assented to by the Governor of the State is no longer subject to disallowance by the Queen or suspension pending signification of the Queen's pleasure. The Governor administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his jurisdiction, and may remit fines and penalties due to the Crown in right of the State. In the performance of his functions generally, particularly those conferred by statute, the Governor of a State acts on the advice of Ministers of State for the State.

STATE GOVERNORS, HOLDERS OF OFFICE, DECEMBER 1989

New South Wales	His Excellency REAR ADMIRAL SIR DAVID JAMES MARTIN, KCMG, AO
Victoria	His Excellency DR DAVIS McCAUGHEY, AC
Queensland	His Excellency the Honourable SIR WALTER BENJAMIN CAMPBELL, QC
Western Australia	vacant
South Australia	His Excellency LT-GEN. SIR DONALD BEAUMONT DUNSTAN, KBE, CB
Tasmania	His Excellency SIR PHILLIP HARVEY BENNETT, KBE, AO, DSO

Commonwealth Government Ministries

The following list shows the name of each Commonwealth Government Ministry to hold office since 1 January 1901 and the limits of its term of office.

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO 1989

(i)	BARTON MINISTRY	1 January 1901 to 24 September 1903
(ii)	DEAKIN MINISTRY	24 September 1903 to 27 April 1904
(iii)	WATSON MINISTRY	27 April 1904 to 17 August 1904
(iv)	REID–McLEAN MINISTRY	18 August 1904 to 5 July 1905
(v)	DEAKIN MINISTRY	5 July 1905 to 13 November 1908
(vi)	FISHER MINISTRY	13 November 1908 to 2 June 1909
(vii)	DEAKIN MINISTRY	2 June 1909 to 29 April 1910
(viii)	FISHER MINISTRY	29 April 1910 to 24 June 1913
(ix)	COOK MINISTRY	24 June 1913 to 17 September 1914
(x)	FISHER MINISTRY	17 September 1914 to 27 October 1915
(xi)	HUGHES MINISTRY	27 October 1915 to 14 November 1916
(xii)	HUGHES MINISTRY	14 November 1916 to 17 February 1917
(xiii)	HUGHES MINISTRY	17 February 1917 to 8 January 1918
(xiv)	HUGHES MINISTRY	10 January 1918 to 9 February 1923
(xv)	BRUCE–PAGE MINISTRY	9 February 1923 to 22 October 1929
(xvi)	SCULLIN MINISTRY	22 October 1929 to 6 January 1932
(xvii)	LYONS MINISTRY	6 January 1932 to 7 November 1938
(xviii)	LYONS MINISTRY	7 November 1938 to 7 April 1939
(xix)	PAGE MINISTRY	7 April 1939 to 26 April 1939
(xx)	MENZIES MINISTRY	26 April 1939 to 14 March 1940
(xxi)	MENZIES MINISTRY	14 March 1940 to 28 October 1940
(xxii)	MENZIES MINISTRY	28 October 1940 to 29 August 1941
(xxiii)	FADDEN MINISTRY	29 August 1941 to 7 October 1941
(xxiv)	CURTIN MINISTRY	7 October 1941 to 21 September 1943
(xxv)	CURTIN MINISTRY	21 September 1943 to 6 July 1945
(xxvi)	FORDE MINISTRY	6 July 1945 to 13 July 1945
(xxvii)	CHIFLEY MINISTRY	13 July 1945 to 1 November 1946
(xxviii)	CHIFLEY MINISTRY	1 November 1946 to 19 December 1949
(xxix)	MENZIES MINISTRY	19 December 1949 to 11 May 1951
(xxx)	MENZIES MINISTRY	11 May 1951 to 11 January 1956
(xxxi)	MENZIES MINISTRY	11 January 1956 to 10 December 1958
(xxxii)	MENZIES MINISTRY	10 December 1958 to 18 December 1963
(xxxiii)	MENZIES MINISTRY	18 December 1963 to 26 January 1966
(xxxiv)	HOLT MINISTRY	26 January 1966 to 14 December 1966
(xxxv)	HOLT MINISTRY	14 December 1966 to 19 December 1967
(xxxvi)	McEWEN MINISTRY	19 December 1967 to 10 January 1968

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO 1989 — *continued*

(xxxvii)	GORTON MINISTRY	10 January 1968 to 28 February 1968
(xxxviii)	GORTON MINISTRY	28 February 1968 to 12 November 1969
(xxxix)	GORTON MINISTRY	12 November 1969 to 10 March 1971
(xl)	McMAHON MINISTRY	10 March 1971 to 5 December 1972
(xli)	WHITLAM MINISTRY	5 December 1972 to 19 December 1972
(xlii)	WHITLAM MINISTRY	19 December 1972 to 11 November 1975
(xliii)	FRASER MINISTRY	11 November 1975 to 22 December 1975
xliv)	FRASER MINISTRY	22 December 1975 to 20 December 1977
(xlv)	FRASER MINISTRY	20 December 1977 to 3 November 1980
(xlvi)	FRASER MINISTRY	3 November 1980 to 11 March 1983
(xlvii)	HAWKE MINISTRY	11 March 1983 to 1 December 1984
(xlviii)	HAWKE MINISTRY	1 December 1984 to 24 July 1987
(xlix)	HAWKE MINISTRY	24 July 1987

In *Year Book* No. 17, 1924, the names are given of each Ministry up to the Bruce–Page Ministry together with the names of the successive holders of portfolios therein. *Year Book* No. 39 contains a list which covers the period between 9 February 1923, the date on which the Bruce–Page Ministry assumed power, and 31 July 1951, showing the names of all persons who held office in each Ministry during that period. The names of members of subsequent Ministries are listed in issues of the *Year Book* from No. 39 to No. 61 inclusive, and in successive issues from No. 64.

This issue shows particulars of the Third Hawke Ministry (at October 1989).

LEADERS OF THE GOVERNMENT, DECEMBER 1989

Commonwealth	THE HON. R.J.L. HAWKE, AC, MP (VIC.) (ALP)
New South Wales	THE HON. N.F. GREINER, MLA (LP)
Victoria	THE HON. J. CAIN, MLA (ALP)
Queensland	THE HON. W.K. GOSS, MLA (ALP)
Western Australia	THE HON. P.M. DOWDING, MLA (ALP)
South Australia	THE HON. J.C. BANNON, MP (ALP)
Tasmania	THE HON. M.W. FIELD, MHA (ALP)
Northern Territory	THE HON. M. PERRON, MLA (CLP)
Australian Capital Territory	THE HON. T.T. KAINE, MLA (LP)

COMMONWEALTH GOVERNMENT

Third Hawke Ministry—at October 1989

* **Prime Minister**	**THE HON. R.J.L. HAWKE, AC, MP**
* **Deputy Prime Minister**	**THE HON. L.F. BOWEN, MP**
Attorney-General	
Minister Assisting the Prime Minister for Commonwealth–State Relations	
Minister for Justice	**SENATOR THE HON. M.C. TATE**
Minister for Consumer Affairs	**SENATOR THE HON. N. BOLKUS**
Minister Assisting the Treasurer for Prices	
* **Leader of the Government in the Senate**	**SENATOR THE HON. J.N. BUTTON**
Minister for Industry, Technology and Commerce	
Minister for Science, Customs and Small Business	**THE HON. B.O. JONES, MP**
Minister Assisting the Prime Minister for Science and Technology	

COMMONWEALTH GOVERNMENT

Third Hawke Ministry — at October 1989 — *continued*

* **Deputy Leader of the Government in the Senate** **Minister for Foreign Affairs and Trade**	**SENATOR THE HON. G.J. EVANS, QC**
* Minister for Trade Negotiations Minister Assisting the Minister for Industry, Technology and Commerce Minister Assisting the Minister for Primary Industries and Energy	**THE HON. M.J. DUFFY, MP**
* **Treasurer**	**THE HON. P.J. KEATING, MP**
* **Minister for Finance**	**SENATOR THE HON. P.A. WALSH**
* **Minister for Transport and Communications**	**THE HON. R. WILLIS, MP**
Minister for Telecommunications and Aviation Support	**THE HON. R.J. KELLY, MP**
Minister for Land Transport and Shipping Support	**THE HON. R.J. BROWN, MP**
* **Minister for Employment, Education and Training**	**THE HON. J.S. DAWKINS, MP**
Minister for Employment and Education Services	**THE HON. P. DUNCAN, MP**
Minister for Aboriginal Affairs	**THE HON. G.L. HAND, MP**
* **Minister for Defence** Vice-President of the Executive Council Leader of the House	**THE HON. K.C. BEAZLEY, MP**
Minister for Defence Science and Personnel	**THE HON. D.W. SIMMONS, MP**
* **Minister for Primary Industries and Energy**	**THE HON. J.C. KERIN, MP**
Minister for Resources	**SENATOR THE HON. P.F.S. COOK**
* **Minister for Social Security** Minister Assisting the Prime Minister for Social Justice	**THE HON. B.L. HOWE, MP**
* **Minister for Administrative Services**	**THE HON. S.J. WEST, MP**
* **Minister for Community Services and Health**	**THE HON. N. BLEWETT, MP**
Minister for Housing and Aged Care	**THE HON. P.R. STAPLES, MP**
Minister for Veterans' Affairs	**THE HON. B.C. HUMPHREYS, MP**
* **Minister for the Arts, Sport, the Environment, Tourism and Territories**	**SENATOR THE HON. G.F. RICHARDSON**
Minister for the Arts, Tourism and Territories Minister Assisting the Prime Minister Minister Assisting the Minister for Immigration, Local Government and Ethnic Affairs	**THE HON. A.C. HOLDING, MP**
* **Minister for Industrial Relations** Minister Assisting the Prime Minister for Public Service Matters Minister Assisting the Treasurer	**THE HON. P.F. MORRIS, MP**
* **Minister for Immigration, Local Government and Ethnic Affairs** Minister Assisting the Prime Minister for Multicultural Affairs Manager of Government Business in the Senate	**SENATOR THE HON. R.F. RAY**
Minister for Local Government Minister Assisting the Prime Minister for the Status of Women	**SENATOR THE HON. M. REYNOLDS**

NOTE: * Minister in the Cabinet

The Leader of the Opposition plays an important part in the Party system of government which operates in the Australian Parliaments. The following list gives the names of the holders of this position in each of the Parliaments as at December 1989.

LEADERS OF THE OPPOSITION, DECEMBER 1989

Commonwealth	THE HON. A.S. PEACOCK, MP (LP)
New South Wales	R.J. CARR, MLA (ALP)
Victoria	THE HON. A.J. BROWN, MLA (LP)
Queensland	THE HON. R. COOPER, MLA (NP)
Western Australia	THE HON. B.J. MACKINNON, MLA (LP)
South Australia	J.W. OLSEN, MP (LP)
Tasmania	THE HON. R.T. GRAY, MHA (LP)
Northern Territory	T.E. SMITH, MLA (ALP)
Australian Capital Territory	THE HON. R. FOLLETT, MLA (ALP)

Numbers and salaries of Commonwealth Government Ministers

Under sections 65 and 66, respectively, of the Australian Constitution the number of Ministers of State was not to exceed seven, and the annual sum payable for their salaries was not to exceed £12,000, each provision to operate, however, 'until the Parliament otherwise provides'.

Subsequently, the number and salaries have increased from time to time, and as at 1 October 1989 the number of Ministers was 30 and ministerial salaries ranged from $25,747 for a Minister other than the Prime Minister, Deputy Prime Minister, Treasurer or Leader of the Government in the Senate to $56,931 for the Prime Minister. An additional ministerial allowance of $29,255 a year is payable to the Prime Minister, $17,253 a year to the Deputy Prime Minister, $14,628 a year to the Treasurer, the Leader of the House and the Leader of the Government in the Senate, and $12,002 a year to other Ministers.

All amounts shown in the foregoing paragraphs are in addition to amounts payable as Parliamentary salaries and allowances.

Parliaments and Elections

The Commonwealth Parliaments

The first Parliament of the Commonwealth of Australia was convened by proclamation dated 29 April 1901 by His Excellency the Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on 9 May 1901 by HRH the Duke of Cornwall and York. The Rt Hon. Sir Edmund Barton, GCMG, KC, was Prime Minister.

The following table shows the number and duration of Parliaments since Federation.

COMMONWEALTH PARLIAMENTS

Number of Parliament	*Date of opening*	*Date of dissolution*
First	9 May 1901	23 November 1903
Second	2 March 1904	5 November 1906
Third	20 February 1907	19 February 1910
Fourth	1 July 1910	23 April 1913
Fifth	9 July 1913	30 July 1914 *(a)*
Sixth	8 October 1914	26 March 1917
Seventh	14 June 1917	3 November 1919
Eighth	26 February 1920	6 November 1922
Ninth	28 February 1923	3 October 1925
Tenth	13 January 1926	9 October 1928
Eleventh	6 February 1929	16 September 1929
Twelfth	20 November 1929	27 November 1931
Thirteenth	17 February 1932	7 August 1934
Fourteenth	23 October 1934	21 September 1937
Fifteenth	30 November 1937	27 August 1940
Sixteenth	20 November 1940	7 July 1943
Seventeenth	23 September 1943	16 August 1946
Eighteenth	6 November 1946	31 October 1949
Nineteenth	22 February 1950	19 March 1951 *(a)*
Twentieth	12 June 1951	21 April 1954
Twenty-first	4 August 1954	4 November 1955
Twenty-second	15 February 1956	14 October 1958
Twenty-third	17 February 1959	2 November 1961
Twenty-fourth	20 February 1962	1 November 1963
Twenty-fifth	25 February 1964	31 October 1966
Twenty-sixth	21 February 1967	29 September 1969
Twenty-seventh	25 November 1969	2 November 1972
Twenty-eighth	27 February 1973	11 April 1974 *(a)*
Twenty-ninth	9 July 1974	11 November 1975 *(a)*
Thirtieth	17 February 1976	8 November 1977
Thirty-first	21 February 1978	19 September 1980
Thirty-second	25 November 1980	4 February 1983 *(a)*
Thirty-third	21 April 1983	26 October 1984
Thirty-fourth	21 February 1985	5 June 1987 *(a)*
Thirty-fifth	14 September 1987	—

(a) A dissolution of both the Senate and the House of Representatives was granted by the Governor-General under section 57 of the Constitution.

The thirty-fourth Parliament ended on 5 June 1987 when both houses were dissolved. Writs were issued by the Governor-General on 5 June 1987 for elections in all States and Territories. The election was announced for 11 July 1987. The thirty-fifth Parliament opened on 14 September 1987.

Qualifications for membership and for franchise—Commonwealth Parliament

Any Australian citizen, 18 years of age or over and who is, or is qualified to become, an elector of the Commonwealth Parliament is qualified for membership of either house of the Commonwealth Parliament. Any Australian citizen (or British subject who was on the Commonwealth Roll as at 25 January 1984) over 18 years of age is qualified to enrol and vote at federal elections. Residence in a subdivision for a period of one month before enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory for all eligible persons.

The principal reasons for disqualification of persons otherwise eligible for election as members of either Commonwealth House are: membership of the other House; allegiance to a foreign power; being attainted of treason; being convicted and under sentence for any offence punishable by imprisonment for one year or longer; being an undischarged bankrupt or insolvent; holding an office of profit under the Crown (with certain exceptions); or having a pecuniary interest in any agreement with the public service of the Commonwealth except as a member of an incorporated company of more than 25 persons. Persons convicted of treason and not pardoned, or convicted and under sentence for any offence punishable by imprisonment for five years or longer, or of unsound mind, or persons who are holders of temporary entry permits under the *Migration Act 1958* or are prohibited non-citizens under that Act, are excluded from enrolment and voting.

Commonwealth Parliaments and elections

From the establishment of the Commonwealth of Australia until 1949 the Senate consisted of 36 members, 6 being returned by each of the original federating States. The Australian Constitution empowers the Commonwealth Parliament to increase or decrease the size of the Parliament, and, as the population of Australia had more than doubled since its inception, the Parliament passed the *Representation Act 1948* which provided that there should be 10 Senators from each State instead of 6, thus increasing the total to 60 Senators, enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation. The *Representation Act 1983* further provided for 12 Senators for each State from the first meeting of the thirty-fourth Parliament.

The *Senate (Representation of Territories) Act 1973* made provision for two Senators to be elected from both the Northern Territory and the Australian Capital Territory. Elections for the Territory Senators are held at the same time as general elections for the House of Representatives.

In accordance with the Constitution, the total number of State Members of the House of Representatives must be as nearly as practicable twice the total number of State Senators. Consequent upon the increase in the size of the Senate in 1949, the number of State Members was increased from 74 to 121. In 1955 there were 122 State Members; in 1969, 123; in 1974, 124; in 1977, 121; in 1980, 122. From the first meeting of the thirty-fourth Parliament, there was a further increase of 23 to 145 State Members flowing from the increase in the number of State Senators to 72.

Redistribution of the States into electoral divisions has taken place in 1949, 1955, 1968, 1974 (Western Australia only), 1977, 1979 (Western Australia only), 1984, and 1988 (Victoria and Western Australia only). The quota (or average number) of electors is the basis for electoral distribution. The Redistribution Committee may vary the enrolment of electorates by up to 10 per cent in order to achieve equality in enrolment midway between redistributions and to take account of economic, social and regional interests, means of communication and travel, the trend of population changes, physical features and area, and existing boundaries of electoral divisions.

The Electoral Commissioner determines the representation entitlements of the States during the twelfth month of the life of each Parliament. Determinations are based on the latest population statistics as provided by the Australian Statistician. Should the representation entitlement of a State change, a redistribution is mandatory. The representation entitlements of the States at the three most recent determinations are shown in the following table.

REPRESENTATION ENTITLEMENTS OF THE STATES

State	*1981*	*1984*	*1988*
New South Wales	43	51	51
Victoria	33	39	38
Queensland	19	24	24
South Australia	11	13	13
Western Australia	11	13	14
Tasmania	5	5	5
Total	**122**	**145**	**145**

From 1922 to 1968 the Northern Territory was represented in a limited capacity by one member in the House of Representatives. In May 1968 the *Northern Territory Representation Act 1922* was amended to give full voting rights to the Member for the Northern Territory effective from 15 May 1968, the day on which the Act received Royal assent.

From 1948 to 1967 the Australian Capital Territory was represented in a limited capacity by one member in the House of Representatives. The Member for the Australian Capital Territory was granted full voting rights on 21 February 1967.

Following the passing of the *Australian Capital Territory Representation (House of Representatives) Act 1973* the Australian Capital Territory was divided into two electoral divisions.

Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. At elections for Senators the whole State constitutes the electorate. For the purpose of elections for the House of Representatives the State is divided into single electorates corresponding in number to the number of members to which the State is entitled.

In 1948, amendments to the *Commonwealth Electoral Act 1918* changed the system of scrutiny and counting of votes in Senate elections from the alternative vote to that of proportional representation. The method of voting for both the Senate and the House of Representatives is preferential.

Particulars of voting at Senate elections and elections for the House of Representatives up to 1984 appear in earlier issues of the *Year Book*. Additional information is available in the *Election Statistics* issued by the Electoral Commissioner following each election and printed as Parliamentary Papers.

The numbers of electors and of primary votes cast for the major political parties in each State and Territory at the latest election for each House of the Commonwealth Parliament were as follows:

COMMONWEALTH PARLIAMENT ELECTIONS, 11 JULY 1987

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Australia*
HOUSE OF REPRESENTATIVES									
Electors enrolled	3,555,060	2,698,034	1,707,161	942,880	906,677	300,763	79,921	162,717	10,353,213
Number of votes recorded for—									
Australian Labor Party	1,439,098	1,139,361	683,639	366,985	377,575	118,077	26,794	79,791	4,231,320
Liberal Party	1,059,597	922,474	319,607	350,224	332,305	140,217	..	44,806	3,169,230
National Party	374,466	154,073	438,625	30,933	54,873	..	9,826	..	1,062,796
Country Liberal Party	..	..	..	..	..	..	20,551	..	20,551
Australian Democrats	201,924	163.088	74,215	64,163	27,302	16,371	..	10,124	557,187
Unite Australia Party	1,837	5,427	..	7,327	..	..	..	..	14,591
Others	108,077	42,268	4,402	4,197	3,113	..	..	13,267	175,324
Formal votes	*3,184,999*	*2,426,691*	*1,520,488*	*823,829*	*795,168*	*274,665*	*57,171*	*147,988*	*9,230,999*
Informal votes	152,724	133,774	53,613	60,378	55,778	14,297	3,488	5,328	479,380
Total votes recorded	**3,337,723**	**2,560,465**	**1,574,101**	**884,207**	**850,946**	**288,962**	**60,659**	**153,316**	**9,710,379**

COMMONWEALTH PARLIAMENT ELECTIONS, 11 JULY 1987 — *continued*

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Australia*
				SENATE					
Electors enrolled	3,555,060	2,698,034	1,707,161	942,880	906,677	300,763	79,921	162,717	10,353,213
Number of votes recorded for—									
Australian Labor Party	1,355,792	1,086,513	643,094	354,747	354,328	113,638	30,872	74,876	4,013,860
Liberal Party	..	878,899	275,085	328,039	324,028	108,039	..	51,090	1,965,180
National Party	..	140,143	439,618	29,954	45,787	..	8,892	..	664,394
Liberal–National Party	1,289,888	..	..	..	..	..	..	..	1,289,888
Country Liberal Party	..	..	..	..	..	..	19,970	..	19,970
Australian Democrats	290,049	211,043	115,456	95,831	47,534	18,841	..	15,353	794,107
Unite Australia Party	5,458	11,213	1,638	4,775	1,620	..	..	..	24,704
Nuclear Disarmament Party	48,998	28,352	17,411	..	..	..	..	..	94,761
Vallentine Peace Group	..	..	..	..	40,048	..	..	..	40,048
Brian Harradine Group	..	..	..	..	..	37,037	..	..	37,037
Others	206,289	113,443	38,058	43,696	14,338	1,305	1,783	8,819	427,731
Formal votes	*3,196,474*	*2,469,606*	*1,530,360*	*857,042*	*827,683*	*278,860*	*61,517*	*150,138*	*9,371,680*
Informal votes	164,542	102,382	49,609	33,514	28,284	11,119	2,374	3,608	395,432
Total votes recorded	**3,361,016**	**2,571,988**	**1,579,969**	**890,556**	**855,967**	**289,979**	**63,891**	**153,746**	**9,767,112**

The state of the parties in each House at the commencement of the thirty-fifth Parliament was: *Senate*—Australian Labor Party 32; Liberal Party of Australia 27; National Party of Australia 6; Australian Democrats 7; Country Liberal Party 1; Brian Harradine Group 1; Vallentine Peace Group 1; Nuclear Disarmament Party 1; *House of Representatives*—Australian Labor Party 86; Liberal Party of Australia 43; National Party of Australia 19.

Referendums

In accordance with section 128 of the Constitution, any proposed law for the alteration of the Constitution, in addition to being passed by an absolute majority of each House of Parliament, must be submitted to a referendum of the electors in each State and Territory and must be approved by a majority of the electors in a majority of the States and by a majority of all the voters who voted before it can be presented for Royal assent.

Since 1901, 42 proposals have been submitted to referendums and the consent of the electors has been received in 8 cases: the first in relation to the election of Senators in 1906, the second and third in respect of State Debts—one in 1910 and the other in 1928, the fourth in respect of Social Services in 1946 and the fifth in respect of Aboriginals in 1967. The remaining three proposals in relation respectively to Senate casual vacancies, maximum retirement age for justices of the High Court and judges of other Federal Courts, and the right of electors in the Territories to vote in referendums for the alteration of the Constitution, were approved in May 1977. In addition to referendums for alterations of the Constitution, other Commonwealth referendums have been held—2 prior to Federation regarding the proposed Constitution and 2 regarding military service during the 1914–1918 War. A National song poll was held on 21 May 1977. Voting was preferential and after the distribution of preferences *Advance Australia Fair* became the National song of Australia.

For further details of referendums *see Year Book* No. 52, pages 66–68, *Year Book* No. 60, pages 90–91, *Year Book* No. 62, pages 72–73 and *Year Book* No. 70, pages 55–56.

The Parliaments of the States

This section contains summarised information; for greater detail refer to State *Year Books*.

STATE OF THE PARTIES IN COMMONWEALTH AND STATE PARLIAMENTS DECEMBER 1989

Commonwealth

House of Representatives—		*Senate—*	
ALP	85	ALP	32
LP	45	LP	27
NPA	18	AD	7
		NPA	7
		IND	3

New South Wales

Legislative Assembly—		*Legislative Council—*	
ALP	43	ALP	21
LP	39	LP	12
NPA	20	NPA	7
IND	7	IND	3
		AD	2

Victoria

Legislative Assembly—		*Legislative Council—*	
ALP	46	ALP	18
LP	33	LP	19
NPA	9	NPA	6
		IND	1

Queensland

Legislative Assembly—	
ALP	54
NPA	26
LP	9

South Australia

House of Assembly—		*Legislative Council—*	
ALP	27	ALP	10
LP	16	LP	10
NPA	1	AD	2
IND	3		

Western Australia

Legislative Assembly—		*Legislative Council—*	
ALP	31	ALP	16
LP	20	LP	15
NPA	6	NPA	3

Tasmania

House of Assembly—		*Legislative Council—*	
LP	17	ALP	1
ALP	13	IND	18
IND	5		

Northern Territory

Legislative Assembly—	
CLP	15
ALP	6
IND	2
NTNP	2

Australian Capital Territory

Legislative Assembly—	
ALP	5
LP	4
RR	4
NSGP	3
ASGC	1

NOTE: Explanation of abbreviations:
AD—Australian Democrats; ALP—Australian Labor Party; ASGC—Abolish Self-Government Coalition; CLP—Country-Liberal Party; IND—Independent; LP—Liberal Party; NDP—Nuclear Disarmament Party; NPA—National Party of Australia; NSGP—No Self-Government Party; NTNP—Northern Territory National Party; RR — Residents Rally.

Acts of the Commonwealth Parliaments

In the Commonwealth Parliament all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Australian Constitution. In all States, other than South Australia and Tasmania, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) and Legislative Assembly. In South Australia and Tasmania laws are enacted in the name of the Governor of the State, with the advice and consent of the Parliament in the case of South Australia, and of the Legislative Council and House of Assembly in the case of Tasmania. Generally, assent to Bills passed by the Legislatures is given by the Governor-General or State Governor acting on behalf of, and in the name of, the Sovereign. In certain special cases Bills are reserved for the Royal assent. The Parliaments of the States are empowered generally, subject to the Australian Constitution, to make laws in and for their respective States in all cases whatsoever. The power of the States to make laws was enhanced in 1986 by the enactment by the Commonwealth Parliament of the *Australia Act 1986* and the accompanying *Australia (Request and Consent) Act 1986*. Subject to certain limitations they may alter, repeal, or vary their Constitutions. Where a law of a State is inconsistent with a law of the Commonwealth Parliament, the latter law prevails and the former law is, to the extent of the inconsistency, invalid.

The enactment of Commonwealth Parliament legislation

The legislation passed by the Commonwealth Parliament between 1901 and 1973, and which was then still in operation, was published in a consolidated form entitled *Acts of the Parliament 1901–1973*. Since 1974, annual volumes of Acts have also been published. The consolidation contains a chronological table of Acts passed from 1901 to 1973, showing how they are affected by subsequent legislation or lapse of time, together with a table of legislation of the Commonwealth Parliament passed between 1901 and 1973 in relation to the several provisions of the Australian Constitution. Reference should be made to these for complete information.

In 1987 the number of enactments of the Commonwealth Parliament was 184.

National Anthem and Colours of Australia

Details of the official proclamation issued on 19 April 1984 are as follows:

His Excellency, the Governor-General of the Commonwealth of Australia, issued the following Proclamation on 19 April 1984:

> I, SIR NINIAN MARTIN STEPHEN, Governor-General of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, hereby declare:
>
> (a) that the anthem 'God Save The Queen' shall henceforth be known as the Royal Anthem and be used in the presence of Her Majesty The Queen or a member of the Royal Family;
>
> (b) that the National Anthem shall consist of the tune known as 'Advance Australia Fair' with the following words:
>
> *Australians all let us rejoice,*
> *For we are young and free,*
> *We've golden soil and wealth for toil;*

Our home is girt by sea;
Our land abounds in nature's gifts
Of beauty rich and rare,
In history's page, let every stage
Advance Australia Fair.
In joyful strains then let us sing,
Advance Australia Fair.

Beneath our radiant Southern Cross
We'll toil with hearts and hands;
To make this Commonwealth of ours
Renowned of all the lands;
For those who've come across the seas
We've boundless plains to share;
With courage let us all combine
To Advance Australia Fair.
In joyful strains then let us sing,
Advance Australia Fair.

(c) that the Vice-Regal Salute to be used in the presence of His Excellency The Governor-General shall consist of the first four bars and the last four bars of the tune known as 'Advance Australia Fair';

(d) that the National Anthem shall be used on all official and ceremonial occasions, other than occasions on which either the Royal Anthem or the Vice-Regal Salute is used; and

(e) that green and gold (Pantone Matching System numbers 116C and 348C as used for printing on paper) shall be the national colours of Australia for use on all occasions on which such colours are customarily used.

3

INTERNATIONAL RELATIONS

The basic principles underlying the shaping and conduct of Australia's foreign policy are that Australia is a significant middle-level power with democratic institutions; having strong affiliations with other Western countries but an emerging Asia-Pacific identity through its increasing regional involvement.

Australia's prosperity is largely dependent on trade; it is geographically remote from some of its major markets and its main allies; it is a relatively affluent and resource rich country in a populous, developing and rapidly changing region.

While links with the United States, Britain and Europe remain important factors in Australian foreign policy in terms of cultural tradition, security, strategic interests and trade, the specific focus of policy has shifted in the past 25 years to the Asia-Pacific region.

Australia is located in a region which includes the politically, economically and strategically significant countries of North Asia, South-East Asia, South Asia, the Indian Ocean and many newly independent nations of the South Pacific. Awareness of the importance of these neighbouring states has led successive Australian Governments to seek to promote and maintain friendly and cooperative relations with them, not only to ensure the stability and security of the region, but also to develop mutually profitable trade, investment, exchange of technology, and cooperation in the development process. Australia gives special attention to its relations with China, Japan, the member countries of ASEAN (the Association of South East Asian Nations), New Zealand, Papua New Guinea and the other South Pacific states.

International issues including economic cooperation, disarmament, trade access, human rights, refugees, and new concepts of national interest have assumed importance together with an increasing recognition of the growing interdependence of the world community. This is reflected in economic issues, disarmament and arms control and human rights becoming priorities in Australia's foreign policy. Australia recognises the importance and growing complexity of economic issues, particularly the need to maintain the recovery of world trade and economic development and the major problem of world debt affecting both developed and developing countries. The growing interdependence of national economic and foreign policies and the increasing vulnerability of Australia's economy to international trade and other developments will remain at the heart of Australia's foreign policy concerns for some time to come. Australia places a high priority on its participation in the resolution of these global issues in the United Nations and other multilateral forums.

The United Nations

Successive Australian Governments have reaffirmed their support for the United Nations (UN), its Charter and the work being done in the various specialised agencies. Within the United Nations and other organisations, Australia seeks to work toward the solution of the pressing problems confronting humanity today.

Australia is involved in a wide range of United Nations' matters and has served on many United Nations' bodies. It was a member of the Security Council in 1945–46, 1956–57, 1973–74 and in 1985–86. The Security Council has primary responsibility for the maintenance of international peace and security. In 1975, a long period of Australian membership of the Trusteeship Council came to an end with the independence of Papua New Guinea. Australia was a long-standing member of the Special Committee on Decolonisation until its withdrawal in January 1985 following UN recognition of the Cocos (Keeling) Islands' decision to integrate with Australia.

Australia supports the work of the specialised agencies and subsidiary bodies in such areas as development assistance, drug control and human rights. It is an active participant in the economic work of the United Nations, through such forums as the UN Conference on Trade and Development (UNCTAD), the Food and Agriculture Organisation (FAO), the World Food Program (WFP), and the UN Development Program (UNDP). Australia also participates in regional consideration of social and economic issues in the Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations' regional body. Australia is a member of the Commission on the Status of Women. It was re-elected for a further four year term on the Commission on Narcotic Drugs in June 1985. It is on the Executive Board of the UN Children's Emergency Fund (UNICEF), the Governing Council of the UN Environment Program (UNEP) and is a long-standing member of the Governing Body of the International Labour Organisation. Australia is an active member of the UN Education, Scientific and Cultural Organisation (UNESCO) and its prominent role in world refugee assistance is reflected in membership of the Executive Committee of the UN High Commissioner for Refugees.

Australia has been a major contributor to UN peacekeeping operations since these began. Australia contributes its assessed share of the costs of UN budgets (1.57 per cent), and similar percentages to all other UN bodies of which it is a member. In addition it makes voluntary contributions as well as providing personnel and equipment for peacekeeping forces. At present Australia provides personnel for the UN Forces in Cyprus, the UN Truce Supervision Organisation, the UN Iran/Iraq Military Observer Group and the UN Transition Assistance Group in Nambibia.

Australia is fully involved in the work of the UN on disarmament and outer space, and is a member of the main subsidiary bodies working in these areas. Though no longer a member of the UN Commission on Human Rights, Australia continues to play an active role at Commission Sessions, and fully participates in the work of other UN bodies dealing with the implementation of International human rights conventions.

Australia accepts the compulsory jurisdiction of the International Court of Justice and plays an active role in bodies concerned with the development of international law.

The Commonwealth

The Commonwealth is a distinctive and unique framework which brings together about a quarter of the world's population in 49 countries. Australia, through its participation in the broad range of Commonwealth activities, seeks to foster the Commonwealth as an instrument for peace and understanding, and for political, social and economic advancement. The last Commonwealth Heads of Government Meeting (CHOGM) was held in Kuala Lumpur, Malaysia in October.

South–East Asia

Australia maintains wide-ranging relations with the countries of ASEAN (Indonesia, Malaysia, the Philippines, Thailand, Singapore and Brunei), both bilaterally and as a group. These relationships include political, economic and trade consultations, commercial, cultural and defence ties and wide-ranging personal contacts. There are regular Ministerial visits in both directions.

Australia maintained its regular dialogue with ASEAN. The Foreign Affairs and Trade Minister attended the Post Ministerial Conference following the annual ASEAN Ministerial Meeting in Brunei in July 1989. Agreement was reached on a number of mutually beneficial development projects under the ASEAN Australian Economic Cooperation Program (AAECP), including a three year Trade and Investment Promotion program.

Indonesia is Australia's closest regional neighbour and straddles major sea and air routes. Australia is committed to the maintenance of sound and productive relations with Indonesia at all levels. Accordingly, Australia has pursued an active relationship with Indonesia including in the areas of trade, investment, science, defence and culture. Australian aid to Indonesia is expected to continue at levels of around $70 million per year. Efforts are currently underway to add further substances to the relationship through building on concrete areas of mutual interest. These include cooperation on international economic issues as well as the development of a more substantial bilateral trade and commercial relationship, cooperation on the exploration and development of resources in the Timor Gap and the establishment of an Australia-Indonesia Institute.

Australia and Thailand share a range of political, strategic and economic interests. Thailand's impressive progress towards industrialisation and its success in international markets, indicate that it will become more important to Australia as a trading and investment partner. Cooperation in multilateral trade matters through the Cairns Group is also an important aspect of the relationship. Australia's relationship with Thailand is given added substance through development assistance acivities, defence cooperation, tourism and cooperation in narcotics control.

Malaysia and Australia have a long history of close and constructive relations, covering the full range of political, commercial and social links. Education links are particularly strong and have contributed significantly to continuing personal contacts between people, business, academic and government circles. Cooperation in defence is long-standing. The relationship has adapted well to the political and economic changes within the region.

Australia has a tradition of close interest in and association with Singapore. Relations are broadly based, encompassing the whole range of bilateral areas including trade and investment, defence, education, civil aviation, tourism and cultural relations. The investment links that Australia and Singapore share have contributed to the frequency of exchanges between political leaders and officials of the two countries.

The Philippines is important to Australia because of its strategic location and close cooperation on a range of matters of mutual interest. Australia has a substantial development assistance program with the Philippines, and there are important linkages through trade, migration, tourism and defence cooperation.

Relations between Brunei and Australia are developing steadily, especially in the fields of trade, defence and education. There is also a growing dialogue on regional trade and strategic issues.

Australia is continuing to develop its relationship with Myanmar but trade and other contacts still remain at relatively low levels.

Australia is concerned by the destabilising effects on the South–East Asian region posed by the situation in Cambodia. Australia's policy has been to promote dialogue among the parties to the conflict in order to achieve a comprehensive political settlement.

Australia is also developing a more broad based relationship with Vietnam through increased trade, visits and cultural exchanges. Bilateral aid remains suspended pending resolution of the Cambodian conflict but humanitarian aid is given directly through miltilateral and non-government organisations. Australia is also continuing to develop its relationship with Laos and is providing a small program of development assistance, including a commitment to build a bridge across the Mekong.

Japan

Japan remains Australia's largest trading partner, with total trade in 1988–89 of approximately $20 billion. At the tenth Australia Japan Ministerial Committee meeting in January 1989, both sides agreed to style the relationship as a constructive partnership. This concept will provide impetus to our dialogue with Japan on regional and international political and economic issues, and to our combined efforts to further diversify the bilateral relationship.

China

Until June, Australia had enjoyed a close relationship with China. The Third Joint Ministerial Economic Commission meeting had been held in Canberra in April and Joint Working Groups on specific areas of economic cooperation were held throughout the year. Bilateral trade exceeded $2 billion. The Australia China Council also continued its active role in developing the bilateral relationship by sponsoring a broad range of activities. The violent repression of the pro-democracy movement in June and subsequent developments in China caused the Australian Government to conduct a major review of the bilateral relationship with China. As a result, it was decided to downgrade the relationship by suspending high level exchanges and curbing some bilateral activities. A further reassessment is due to take place.

Hong Kong

With two-way trade of $2.2 billion, Hong Kong is Australia's second largest Asian market and third largest export market. Hong Kong is also an important source of migration, tourism and investment, as well as a major target for export of education services. The visit early in the year by the Minister for Foreign Affairs and Trade and the Minister for Immigration, Local Government and Ethnic Affairs reflect Hong Kong's importance to Australia.

Taiwan

While Australia has no official links with Taiwan, there is a growing commercial relationship. Two-way trade is valued at $3.2 billion, in Taiwan's favour. Taiwan is now Australia's seventh largest export market.

Republic of Korea

Korea's relative importance to Australia has grown quickly in recent years reflecting a rapidly increasing level of bilateral trade. Korea was Australia's fourth largest export market in the 1989 fiscal year. Total bilateral trade now stands at $3.4 billion per annum. Significant expansion of cultural and political links has also occurred in the last few years. High level visits have included President Roh's visit in November 1988 and a reciprocal visit by Prime Minister Hawke in January 1989.

South Pacific

Australia is a member of the South Pacific Forum, the Forum Secretariat (formerly SPEC—the South Pacific Bureau for Economic Cooperation), the Forum Fisheries Agency (FFA), the South Pacific Commission (SPC) and the South Pacific Applied Geoscience Commission (SOPAC). Australia actively participates in meetings of these organisations and provides significant financial support to them and to other regional and international programs providing assistance to the South Pacific region. To assist in the preservation and development of indigenous Pacific cultures, Australia has established the South Pacific Cultures Fund. Australia and New Zealand have entered into a non-reciprocal preferential trade agreement in favour of South Pacific Forum States; the South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA). The Prime Minister, Mr Hawke, represented Australia at the 20th South Pacific Forum held in Tarawa, Kiribati, in July 1989. Australia is a party to the South Pacific Nuclear Free Zone Treaty (the Treaty of Rarotonga) and has signed the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (SPREP).

Relations between Australia and New Zealand reflect their shared history, similarities in political and social structure and the importance of the economic links. While Australia and New Zealand still have some differences of view in the defence policy area, specifically in relation to ANZUS, other aspects of the relationship have continued to expand. This has been exemplified in the 1988 Review of the Closer Economic Relations Trade Agreement (ANZCERTA) which provides for the accelerated movement towards a single trans-Tasman market through achieving free trade in goods by mid 1990, the extension of CER into trade in services and increased harmonisation of the commercial environment. The encouragement of political and cultural exchanges through the Australia New Zealand Foundation reflects another dimension in the close relationship. Australia and New Zealand also often work closely in their approaches to the international political and economic environment.

As the largest of the South Pacific Island States, Papua New Guinea (PNG) has played an influential and leading role in the region since independence in 1975. Australia and PNG have a close and warm relationship which encompasses a broad range of government and non-government activities. Papua New Guinea is the major recipient of Australian aid. One of the most significant changes in the bilateral relationship occurred in December 1987, with the signing by Prime Ministers of the Joint Declaration of Principles (JDP) guiding relations between the two countries. The JDP aims at changing the bilateral relationship from the post-colonial phase to one of reciprocity and recognition of mutual benefits. In working towards these aims both governments are seeking to ensure that each element of the relationship whether defence cooperation, trade, investment or development cooperation is seen as integral to the relationship as a whole. Within the JDP framework, a Ministerial Forum is held; the first took place at Wewak, 31 October–1 November 1988. A new development cooperation treaty is being negotiated.

The Americas

Australia has a long-standing relationship with the United States which extends across the whole range of national life. Government-to-government relations are one part of a larger and more extensive interaction between the two societies with interlinked culture and language. Relations between the countries are warm and cooperative, with a high degree of official consultation and generally close personal relations between the leaders. The affinity is underpinned by substantial economic and commercial relations although perspecitives can and do differ on aspects of trade policy.

Australia's defence links with the United States under ANZUS serve the vital interests of both countries by contributing to regional security and the maintenance of global balance essential to world peace.

Canada is a country comparable with Australia in terms of institutions and traditions, geographical size, and international outlook. This has allowed a close degree of cooperation and interchange of ideas between the two countries. Australia takes an increasing interest in developments in Latin America and the Caribbean.

Europe

Australia seeks to maintain warm and friendly relations with the countries of Western Europe, with the European Community and its institutions, including the European Parliament.

Bilateral relations with individual Western European countries continue to be of considerable importance. These relations are promoted by the very close cultural and historical links with these countries, and are reinforced by similar approaches to international issues and a shared commitment to democratic values and human rights. Economic ties between Australia and the major Western European economies are likely to be significantly strengthened with the increase of European investment in Australia and the increase in the export of Australian energy resources to Europe.

The European Community (EC) is an important trading partner and a major source of investment funds and technological expertise, as well as a significant importer of Australian raw materials. This natural complementary relationship has however been tempered by tensions caused by trading difficulties in the agricultural sector. Australia nonetheless remains committed to the strengthening of a positive relationship with the EC on the principle of enlightened self-interest.

Following the Government's decision in May 1983 to normalise relations with the USSR, activities have been restored or initiated across a broad range, contributing to the objective of a pragmatic and constructive relationship. Australia is studying closely the progress of perestroika in the USSR. Progress has been made in broadening our trade relations with the USSR. In conjunction with a visit by the Prime Minister to Moscow in December 1987, four new bilateral agreements, covering trade, various fields of science, and sport, were signed.

Important changes are being implemented in Eastern Europe and Australia has an interest in encouraging improvements in East–West relations. Eastern Europe has significant potential for Australian exports, particularly commodity exports, although there have been chronic debt problems emerging in some Eastern European countries in recent years. The presence in Australia of large ethnic groups, many of which have family in Eastern Europe, has raised the question of freedom of emigration from those countries.

The Middle East

Australia has substantial trading interests in the area and long-standing friendly relations with the Arab nations, Iran and Israel. Australia supports efforts to bring about negotiations of differences in the region, e.g. in such areas of conflict as the Arab–Israeli dispute and the problems facing Lebanon. Australia supported the Camp David accords and the peace treaty between Israel and Egypt, seeing them as a first step towards a just, lasting and comprehensive settlement of the Arab–Israeli dispute. Australia supports all efforts to negotiate the dispute, and believes a settlement should be based on UN Security Council Resolution 242 (which, inter alia, recognises the right of all States in the area to live in peace within secure and recognised boundaries and calls on Israel to withdraw from territories captured in 1967) and on recognition of the central importance of the Palestinian issue, including the right of self-determination for the Palestinian people and, if they so choose, the right to independence and the possibility of their own independent State. The Government recognises, however that any such arrangement will depend on decisions involving people of the immediate region. Australia has maintained a strict policy of neutrality in the Iran-Iraq war, and welcomes the achievement (under UN auspices) of a ceasefire between Iran and Iraq. Australia has responded positively to a request from the United Nations to contribute to the United Nations Iran-Iraq Military Observer Group. Fifteen Australian officers have been assigned to the group and are serving in Iran.

Africa

Australia maintains a broad range of contacts with independent black African States, and is closely concerned with developmental and humanitarian issues affecting Africa. Its strong and continuing opposition to racial discrimination and the apartheid system is reflected by its adherence to the Commonwealth statement on Apartheid in Sport (the Gleneagles Declaration), its adoption of all measures against South Africa agreed by Commonwealth Heads of Government at Nassau (1985) and London (1986) and its active role in encouraging peaceful change in South Africa, including through the Commonwealth Eminent Persons Group and most recently its financial sanctions initiative agreed to by Commonwealth Heads of Government at Kuala Lumpur (1989). Australia is ready to join concerted international efforts to bring further pressure to bear on the South African Government to abolish apartheid, which it regards as an inhuman practice and the root cause of confrontation and violence in southern Africa. Australia maintains correct but cool diplomatic relations with South Africa. Australia also supports international action to bring Namibia to independence by the negotiated settlement in accordance with United Nations

Security Council Resolution 435 and has provided military and civil support to the United Nations Transition Assistance Group, which is supervising the independence process in Namibia.

Australian aid to Africa is focussed on Eastern and Southern Africa. This includes assistance given through the Southern African Development Coordination Conference as well as humanitarian assistance for refugees from apartheid in South Africa and Namibia. Food aid constitutes the dominant share of Australian aid to Africa because of growing food deficits and the continuing famine crisis in Ethiopia and Mozambique

Indian Ocean

On 17 January 1984, the Minister for Foreign Affairs, Mr Hayden, announced that the Government had approved guidelines for a comprehensive and integrated policy approach to Indian Ocean issues. Under the guidelines Australia will: act in accordance with its status as an independent but aligned Indian Ocean Littoral State; continue to play an active role in the United Nations Ad Hoc Committee on the Indian Ocean; maintain the goal of the resumption of United States–USSR talks on arms limitations in the region; and support other arms limitations initiatives where these accord with Australia's assessment of its own interests and those of the region as a whole. Australia will also seek to give greater attention to the development of relations with Indian Ocean island States, and, to a lesser extent, East African States. Australia maintains a modest aid program to the smaller Indian Ocean countries.

ANZUS

Following a review in 1983 of the ANZUS Treaty by the Australian Government, including a re-examination with its ANZUS partners at the 1983 ANZUS Council Meeting in Washington, the Government reaffirmed the alliance as fundamental to Australia's national security and foreign and defence policies. The text of the ANZUS Treaty of 1952 can be found in Treaty Series No. 2, for 1952, printed by the then Department of External Affairs. In early 1985, the New Zealand Government implemented a policy not to permit the entry to New Zealand of nuclear powered warships or of warships (or aircraft) which might carry nuclear weapons. Consequently the United States, at the Australia–United States ministerial talks in August 1986, formally suspended its security obligations to New Zealand under the ANZUS Treaty pending adequate corrective measures. Both the United States and Australia agreed that the relationship between the United States and Australia under the ANZUS Treaty and the rights and obligations assumed by the United States and Australia towards each other under the Treaty would remain constant and undiminished. ANZUS continues to govern the bilateral defence relationship between Australia and the United States, and that between Australia and New Zealand.

Nuclear issues

Australia's strong commitment to effective disarmament and arms control is reflected in its support for the international non-proliferation regime. Australia ratified the Nuclear Non-Proliferation Treaty (NPT) in 1973 and encourages universal adherence to it.

Australia is a member of the International Atomic Energy Agency (IAEA) and provides political and financial support to the IAEA partly to ensure the continued effectiveness of the international nuclear safeguards system. Australia's active participation in the IAEA, including contributions to the IAEA regular budget and to the Technical Assistance and Cooperation Fund, helps the Agency to continue to function in an effective and efficient manner.

The stringent nuclear safeguard conditions applied to exports and subsequent use of Australian uranium are set out as binding international legal obligations in the bilateral nuclear safeguards agreements which customer countries must enter into before any uranium exports from Australia are permitted. These conditions include an undertaking not to use Australia-obligated nuclear material for any military or explosive purpose, and the acceptance of IAEA safeguards in order to verify that undertaking. Australia has concluded twelve bilateral nuclear safeguards agreements covering twenty-one countries.

Australia is also a member of the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD). Australia values the NEA as an essentially technical forum for international consultation on nuclear issues.

Disarmament and arms control

Australia is energetically promoting arms control and disarmament objectives at the United Nations and the Conference on Disarmament in Geneva. Australia attaches particular priority to the earliest possible conclusion of a treaty banning all nuclear testing by all States in all environments for all time (a Comprehensive Test Ban) and is working to uphold and strengthen the Nuclear Non-Proliferation Treaty. Although not a party to any negotiations on reductions of nuclear weapons between the United States and the USSR, Australia continues to encourage genuine dialogue and a readiness to find accommodation with the aim of stable mutual deterrence. It has called for early agreement on arms reductions and related outer space issues in the current Geneva negotiations. Australia seeks a balanced, mutual and verifiable freeze on the production, testing and deployment of nuclear weapons, which would be followed by deep reductions in nuclear weapons stockpiles. Australia was at the forefront of efforts within the Pacific region which resulted in the endorsement and opening for signature of a South Pacific Nuclear Free Zone Treaty during the meeting of the South Pacific Forum in Rarotonga, Cook Islands in August 1985. Australia also accords priority to a number of non-nuclear disarmament questions. It is committed to supporting the conclusion of a fully effective and verifiable chemical warfare convention that would outlaw the use of chemicals as weapons and in September 1989 hosted the Government Industry Conference against Chemical Weapons which obtained the commitment of the international chemical industry to cooperate in the conclusion and eventual implementation of a chemical weapons convention. Australia is concerned at the implications for strategic stability of the research into ballistic missile defences being conducted by both superpowers and is pressing for international agreements to prevent an arms race in outer space. Australia has acceded to the following disarmament and arms control agreements: the Partial Test Ban Treaty, the Geneva Protocol (on the Prohibition of the Use in War of Asphyxiating Poisonous or Other Gases and of Bacteriological Weapons), the Outer Space Treaty, the Sea-Bed Arms Control Treaty, the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, the Environmental Modification Convention, the Antarctic Treaty, and the Inhumane Weapons Convention. Australia was the first signatory to the South Pacific Nuclear Free Zone Treaty on 6 August (Hiroshima Day) 1985.

Trade relations

Economic factors have assumed primary importance in international relations. This is largely due to the growing economic interdependence between nations and the need for global cooperation to solve the problems facing domestic economies.

Australia's interest in international economic developments derives from the overall importance of trade to Australia and its historical reliance upon a substantial amount of capital inflow to offset balance of payments deficits on the current account.

The economic recession of the world economy in the 1970s and early 1980s led to the growth world-wide of protectionist pressures and moves towards seeking solutions to economic problems through bilateralism and the formation of trade blocs. The Australian Government has endeavoured to counter trends towards increased protectionism and to encourage freer trade through active participation in forums such as the General Agreement on Tariffs and Trade (GATT). GATT is the principal multilateral institution for the pursuit of the further liberalisation of world trade. Australia has consistently supported a reduction in barriers to trade and the concept of an open and multilateral trading system, and is playing an active role in the Uruguay Round of Multilateral Trade Negotiations taking place under GATT auspices, and scheduled to end in December 1990.

In particular, Australia initiated the formation of the 14 member Cairns Group of Fair Traders in Agriculture, which has established itself as an effective proponent of reform in international agricultural trade.

Australia also has a strong commitment to the freedom of international capital flows. Because it is a net capital importer, it is of considerable importance to Australia that the international system be increasingly open and adaptable to facilitate the global exchange of goods, services, labour and capital. This is all the more so in view of the significant challenges imposed on the international monetary system by the dramatic changes in the world economy during the past decade.

The last two decades have seend the economies of the Asia-Pacific region (in this case taken as the Western Pacific Region plus North America) emerge as the fastest growing in the world. The region accounts for over half of the world's economic output and more than one-third of world trade. While the region's growth prospects are favourable they are subject to some uncertainty, partly reflecting regional developments and partly broader trends in the international economy. It was against this background of dynamic regional growth that the Prime Minister launched the Australian initiative for Asia-Pacific Economic Cooperation in Seoul in January 1989.

Australia has a major stake in regional economic developments. The extent of Australia's economic integration with the region will largely determine Australia's economic future. The region already accounts for some 70 per cent of our merchandise exports and 65 per cent of Australian merchandise imports. Australia's major objective in greater regional economic cooperation is thus to assist in improving the prospects for sustained regional growth and development. This would include ensuring that the interest of the region's economies in an open multilateral trading system is reflected in the outcomes of multilateral trade negotiations and a range of international economic forums. Reflecting these goals there are three basic objectives underlying the Australian proposal as set out by the Prime Minister in Seoul:

- to improve the prospects of success for multilateral trade liberalisation in the Uruguay Round negotiations and beyond;
- to discuss openly obstacles to trade and investment in the region and ways to liberalise trade in a non-discriminatory way; and
- to identify specific areas for cooperation such as investment, technology transfer and infrastructure development, where complementarities exist.

Regional response to the Australian initiative has been positive. Ministers from the six ASEAN countries, Japan, the Republic of Korea, New Zealand, the United States and Canada as well as Australia attended an initial Ministerial-level meeting in Canberra on 6–7 November 1989. The meeting represented a valuable opportunity for Ministers to discuss a number of common economic and trade issues, as well as to identify specific areas of possible cooperation and to address how the process could be carried forward in an on-going manner.

Because of its characteristics and location, Australia is vitally dependent on its aviation, shipping and communication links with the rest of the world. Civil aviation has assumed particular prominence in Australia's relations with a large number of countries. Australia's international airline, Qantas, has a well-established network linking Australia with Asia, Oceania, North America, Europe and Africa. Shipping is also of major importance and the maintenance of Australia's interests in the shipping and aviation fields requires a conducive atmosphere in both bilateral and multilateral negotiations.

Australia attaches great importance to its traditional relations with other developed countries, which continue to be Australia's principal trading partners. Membership of the OECD has enabled Australia to take part in consultations on a wide range of policy issues and on issues of international concern with countries experiencing similar social and economic circumstances. Of particular relevance to Australia's regional trade and economic relations, the OECD has been developing closer contact with the Dynamic Asian Economies (DAEs — South Korea, Taiwan, Hong Kong and Singapore). At the 1989 Ministerial Council Meeting, Australia was active in persuading member countries to accept the need for urgent agricultural reform. Macro-economic and structural policy outcomes, combined with trade and agricultural commitments made at the meeting gave a positive impetus to these issues at the Paris Summit in July 1989. The OECD meeting outcome also helped maintain the momentum in the Uruguay Round process. The Organisation's work on relations with developing countries is also relevant to Australian interests and on the environment, the OECD recognises the importance of integrating environment and economic decision-making and provides a forum for the discussion of the means of contributing to sustainable development.

Law of the Sea

Australia participated in all sessions of the Law of the Sea Conference, the largest and potentially the most important conference in the history of the United Nations, involving major strategic, economic, transport, scientific and environmental issues. The UN Convention on the Law of the Sea opened for signature on 10 December 1982 and Australia signed that day.

It had attracted 158 other signatures by the time it closed for signature two years later. The Convention will enter into force twelve months after it receives 60 ratifications or accessions. The text includes articles on the system of exploration and exploitation of the deep seabed beyond the limits of national jurisdiction; extension of the territorial sea to 12 nautical miles; establishment of coastal state sovereign rights in the living and non-living resources of an 'exclusive economic zone' of 200 nautical miles; recognition of coastal state sovereign rights over the exploration and exploitation of the natural resources of the continental shelf, defined in terms of the natural prolongation of the land-mass; protection and preservation of the marine environment; marine scientific research; and the settlement of disputes. Rights of freedom of navigation and passage through straits and archipelagos, which are important to trading nations such as Australia, are also recognised. A preparatory commission for the establishment of the International Seabed Authority and its various organs has been meeting biannually since 1983. Australia has been an active participant in its work.

Antarctica

Australia has had a long association with Antarctica commencing with early expeditions and continuing with an active scientific program. Antarctica's importance to Australia derives from its geographical proximity, the history of Australian involvement there and Australian administration of the Australian Antarctic Territory. Australia maintains three permanent bases in the Territory; at Casey, Davis and Mawson (as well as one on Macquarie Island).

As one of the twelve original signatories, Australia attaches particular significance to the 1959 Antarctic Treaty, which serves important Australian scientific, envionmental and security interests. Australia hosted the first Antarctic Treaty Consultative Meeting (ATCM) in Canberra in 1961. Such meetings are held about every two years in one of the Consultative Party States. Australia was last the host in 1983 for the twelfth meeting. The fifteenth ATCM was held in Paris from 9 to 20 October 1989. There are now 39 Governments which are parties to the Antarctic Treaty. Of these 25 are the Consultative Parties entitled to participate fully in Consultative Meetings.

Hobart is host to the Commission for the Conservation of Antarctic Marine Living Resources established by a Convention adopted in Canberra in 1980. The Commission and its Scientific Committee meet annually. The Commission is the only international organisation based in Australia.

On 22 May 1989 the Australian Government announced that it will not sign the Convention on the Regulation of Antarctic Mineral Resource Activites adopted at Wellington on 2 June 1988. Instead it is pursuing the negotiation of a comprehensive environmental protection regime within the framework of the Antarctic Treaty. Australia is also seeking to extend and strengthen the present moratorium on minerals activity in Antarctica. On 18 August the Australian and French Prime Minsters announced that Australia and France would pursue their initiative jointly. The fifteenth ATCM agreed to a Special Consultative Meeting in 1990 on the environment at which the Australian-French proposal will be fully considered.

Treaties

The texts of bilateral and multilateral treaties to which Australia becomes a party are printed in the Australian Treaty Series when they enter into force. The Australian Treaty List is published as Treaty Series 1971, No. 1.

Australia's current position with regard to individual treaties may be ascertained by referring to the 1971 list in conjunction with Cumulative Supplement No. 5 (Treaty Series 1986, No. 34), annual volumes on treaty action in the Treaty Series, and annual volumes on International Treaties and Conventions to which Australia has not yet become a party, in the series 'Select Documents on International Affairs'. These publications are available from Commonwealth Government Bookshops in State capital cities.

Cultural relations

The Department of Foreign Affairs and Trade administers a program of cultural relations overseas. This program supports Australian foreign policy and economic objectives through cultural activities and exchanges. These include tours overseas of all types of performing and visual arts, promotion of Australian literature and literary studies, promotion of general Australian studies, cultural assistance, visitor exchange, book gifts, and sporting gifts and exchanges. Formal priorities have been established for the program, with major emphasis on South-East Asia, the South Pacific, North and East Asia, South Asia and Indian Ocean countries. There are also continuing programs in the United States of America and in the USSR.

The Department collaborates closely with other departments, institutions and agencies in the development of its program. The Department seeks to build up programs which will increase understanding and comprehension overseas of Australian society and culture, and thus help foster a favourable environment for the promotion of foreign policy goals. At the same time it seeks to promote professional opportunities for Australian practitioners in all cultural and sporting fields.

The Department also provides secretariats for the Australia China Council, the Australia Japan Foundation, the Australia New Zealand Foundation and for the Australia Indonesia Institute, which the Government established in 1989. The secretariats form part of the Cultural Relations Branch.

Australian Foreign Aid Program

The objective of the Australian Aid program is to promote the economic and social advancement of the peoples of developing countries, in response to Australia's humanitarian concerns as well as Australia's foreign policy and commercial interests. In pursuing this objective the aid program focuses on the surrounding Asia-Pacific region. To maximise development impact the program consists of a range of activities targeted on assisting the poor and promoting economic growth in developing countries.

In 1989–90 Australia will provide around $1,163 million as official development assistance. While this represents a decline of around 8 per cent in real terms on last financial year, the level of aid has been distorted by a decision to reschedule payments to the World Bank and Asian Development Bank from 1989–90 to 1988–89. If the rescheduling is taken into account, aid in 1989–90 would have increased by 7 per cent in real terms.

The Australian Aid program is divided into three divisions: Country Programs; Global Programs and Corporate Services. The implementation of most of Australia's aid is carried out on a country program basis. These programs are designed to promote development in recipient countries by assisting governments and regional organisations to plan and implement programs and activities designed to improve economic and social conditions. In 1989–90, $733 million will be provided through Country Programs.

Through Global Programs Australia contributes to development activities not planned on a country-by-country basis. Activities supported include emergency relief, assistance for refugees, agricultural research, the promotion of aid and development issues in the Australian community as well as contributions by Australia to international development organisations. In 1989–90, $355 million has been allocated to Global Programs for coordinated Australian and international efforts to assist development in Third World countries.

The aid program is administered by the Australian International Development Assistance Bureau (AIDAB). Corporate services, which represents the costs of administering the aid program, will total around $30 million in 1989–90. In addition, a further $45 million will be spent by other government departments on aid activities.

Country Programs

The Australian Government currently provides aid directly to a total of over 90 countries. However, in line with Australia's geopolitical and economic interests, emphasis is placed on providing support to nearby countries in the South Pacific and South East Asia regions.

The planning and delivery of most aid to countries other than budget support to Papua New Guinea, is now programmed on a country basis. Country Programs draw together all the instruments of aid delivery available to a particular country. In consultation with recipients, a strategy is formulated to identify areas of focus and a program of activities is developed accordingly. The aim is to provide forms of aid that best match recipient countries' needs with Australia's comparative advantage.

In financial terms the three most important forms of aid are project aid, education and training, and food aid.

Projects supported by Australia range from large-scale, long-term, integrated regional development programs to small-scale village level projects. Most projects involve assistance to develop the recipient's physical capital (e.g. bridge construction in Indonesia), and the provision of technical cooperation to enhance local expertise (e.g. forestry assistance in Nepal and curriculum development in Solomon Islands).

Australia's education and training program is designed to assist recipient countries to develop the human skills needed for their economic and social advancement. Recipient governments are encouraged to identify education requirements and staffing needs which relate to their national development priorities in areas where Australia can offer relevant expertise and which complement other Australian aid activities. The majority of education and training activities occur within Australia, though some assistance is provided in developing countries themselves. In 1988–89 the estimate of contributions towards the education of developing country students is $80 million.

MAJOR RECIPIENTS OF AUSTRALIAN AID 1988–89

Country	*$ million*
Papua New Guinea	313.7
Indonesia	84.0
Malaysia	48.2
Bangladesh	33.9
Philippines	33.0
China	30.4
Thailand	30.0
Fiji	26.6
Vietnam	19.8
Vanuatu	18.1
Mozambique	16.5
Egypt	15.3
Solomon Islands	14.3
Pakistan	11.8
Tonga	9.6
Western Samoa	8.6
India	8.4
Hong Kong	7.5
Zimbabwe	7.2
Ghana	6.9
Laos	6.9

Australia is one of the world's largest providers of food assistance to developing countries. Three-quarters of Australia's food aid is provided to assist in the achievement of long term development goals. About half of developmental food aid is provided on a direct government-to-government basis when it is assessed as the most effective way to fill a particular need in a recipient country and as complementing the other forms of assistance being provided. The remaining developmental food aid is channelled through the World Food Programme (WFP), a UN organisation, for use in association with projects to develop rural facilities and to alleviate poverty among rural people. Australia also provides about one-fifth of its food aid for emergency relief and refugee programs. In 1989–90, Australia will provide approximately $41 million through Country Programs, $44 million through WFP and $27 million of emergency aid.

Papua New Guinea and South Pacific

Papua New Guinea (PNG) continues to be Australia's largest aid recipient with an allocation of $304 million in 1989–90, about 27 per cent of the Australian aid program. Most of this assistance will be provided as a grant to the PNG Budget. The Australian and PNG Governments have agreed that the overall level of Australian aid should reduce progressively and that there should be a gradual shift from budget support to assistance for individual activities. Under the current program budget support will be maintained at its present level of $275 million until 1992–93 and drop to $260 million in 1993–94. Over the same time programmed activities will be expanded from $20 million to $35 million.

The Australian aid program in the South Pacific will in 1989–90 assist Fiji, Solomon Islands, Western Samoa, Vanuatu, Tonga, Kiribati, Tuvalu, Cook Islands and Niue.

In 1988–89 Australia introduced a new rolling three year program for the South Pacific to assist planning for both Australia and recipients by providing a degree of financial predictibility. Each recipient is advised annually of the level of aid proposed for the next financial year and also on the national levels for following years (emergency and other non-programmable aid will be additional). Australia also supports the regional organisations active in the Pacific. In addition assistance is given through the multi-country program where activities are viable when organised regionally. The major focus of the multi-country activities will be on health. In 1989–90 Australia will allocate to the South Pacific (excluding PNG) $85.3 million.

South–East Asia

Australia provides a broad range of forms of assistance to the region, including project aid, training assistance for students, joint-financing and technical assistance supporting over 60 projects in South-East Asia. A total of $138 million has been allocated in 1989–90 for the region.

Indonesia, with an allocation of $48 million, is the largest recipient of project aid. Other major recipients of bilateral aid under the South-East Asia program are the Philippines ($28 million), Thailand ($22 million), and Laos ($7 million).

Support is also provided for regional organisations and programs, e.g. the ASEAN–Australia Economic Co-operation Program (AAECP) and the Economic and Social Commission for Asia and the Pacific (ESCAP).

Other regions

Australian assistance to other regions of the world is concentrated on specific economic and social sectors in which Australia has particular expertise. Aid to these countries through Country Programs will total $124.7 million in 1989–90.

The largest allocation for a group of countries is that for Southern Africa, where $49.1 million is programmed. Recipients are the nine member states of SADCC, the Southern Africa Development Coordination Conference (Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe), and the SADCC organisation itself. The major focus of the program is the promotion of food security through assistance to agriculture, transport and communications. The increase will also enable an expansion of the Special Assistance Program for South Africans and Namibians (SAPSAN) and continuation of village level aid through non-government organisations.

Other recipients benefitting from programmed Australian aid in 1989–90 are China ($21.1 million), the Indian Ocean island states ($9.6 million), South Asia ($22.7 million), North Africa/Middle East ($13.8 million) and other sub-Saharan Africa ($7.7 million). Food aid is a major component of all these programs.

International development organisations and programs

As a responsible member of the international aid community, Australia accepts its obligations to support a range of key international financial and development institutions. These organisations can provide aid on a scale and in sectors beyond the capacity of a single donor. Australia's active participation in these agencies enables it to have a policy influence on each institution's activities, and to utilize their expertise in formulating Australia's own aid strategies and programs. It also allows Australia to provide assistance in areas which are outside its sphere of technical expertise, comparative advantage or access.

In 1989–90 Australia will make voluntary contributions to international organisations of about $158.5 million. They will include about $69 million to a number of key development agencies of the UN system such as UNDP, UNICEF, and WFP. International financial institutions such as the World Bank and the Asian Development Bank have been allocated $65 million. Commonwealth programs and a number of specialist international non-government agencies, and development and research institutions will also be supported in their development activities.

Emergencies and refugees

Australia provides assistance in cash and kind for refugees and victims of emergencies and natural disasters in developing countries to help alleviate suffering, as well as to promote equitable and longer term solutions to refugee problems. The channelling of the emergency aid is through a variety of agencies depending on the location and nature of each emergency. In 1989–90, $55.2 million will be provided for Australian responses to emergency, disaster and refugee situations. Assistance may include food aid, temporary shelter materials, medical supplies and accountable cash grants. Australia also supports the general programs of a number of organisations by making contributions to their core budgets. These include the UN High Commissioner for Refugees (UNHCR), the UN Relief and Works Agency (UNRWA) and the International Committee of the Red Cross (ICRC). Australia also provides assistance for disaster preparedness and mitigation measures, especially in the South-Pacific.

Community and commercial programs

The Australian public has consistently demonstrated its concern about poverty in the developing world. The Government provides funds to subsidise the development projects and relief activities of non-government organisations. These agencies provide development and emergency aid from funds raised directly in the community, on a much larger scale than the subsidies they receive from the Government. They undertake a range of development projects, development education and volunteer programs. A total of $14 million has been allocated to voluntary agencies in 1989–90.

The direct participation of the academic and research community in the aid program is also encouraged and $28 million has been allocated to these activities.

In line with the stated government policy, the promotion of Australia's political/strategic and commercial interests respectively are among the primary objectives of the aid program. AIDAB promotes Australian commercial interests within this policy framework through business liaison activities.

Australia's mixed credit scheme, the Development Import Finance Facility (DIFF), provides opportunities for Australian business to supply developmentally important goods and services. Mixed credits combine grant aid funds with commercial export credits to provide 'soft finance'.

Consular services and passports

The Department is responsible to the Minister for Foreign Affairs and Trade for the protection and welfare of Australian citizens and their interests overseas. Consular services to the Australian public are available from Australian diplomatic and consular posts throughout the world.

In 1989 the service was expanded in two ways through arrangements with Canada and the inauguration of a two year pilot program for Honorary Consuls.

The Australia Canada Consular Sharing Agreement signed in 1986, was extended to a larger range of countries. The agreement enables Australian citizens to obtain consular assistance from Canadian diplomatic and consular posts in certain countries where Australia has no representation. The countries where Canada now provides consular services to Australians are Norway, Tunisia, Peru, Ivory Coast, Ghana, Ethiopia, Guinea, Tanzania, Senegal, Zaire, Gabon, Morocco and Cameroon.

The appointments of Honorary Consuls, the first appointed by the Australian Government, have so far been made at the following locations: Lae, Manague, Barcelona, Bogata and Sao Paulo.

In 1988 770,265 passports were issued and about 70 per cent of all applications were lodged through Australia Post. The passport telephone enquiry service provides country and city residents with equal cost telephone access. The service also responds to callers when there is an emergency overseas which might involve Australians. The service answers about 640,000 calls a year.

To maintain security in the passport processing system, adult applicants must attend an interview before they may obtain a passport valid for ten years. Applicants who are unable to attend an interview may be issued with a temporary passport valid for twelve months.

Australian Representation Overseas

As at 30 June 1989, Australia maintained the following diplomatic and consular representation overseas (full details of these missions are available from the Department of Foreign Affairs and Trade, Canberra, ACT, 2600).

Country	*Post*
Algeria	Algiers
Argentina	Buenos Aires
Austria	Vienna
Bangladesh	Dhaka
Belgium	Brussels
Brazil	Brasilia
Brunei	Brunei
Canada	Ottawa
Chile	Santiago
China	Beijing
	Shanghai*
Cyprus	Nicosia
Denmark	Copenhagen
Egypt	Cairo
Federal Republic of Germany	Bonn
Fiji	Suva
France	Paris
	Noumea*
Greece	Athens
Hong Kong	Hong Kong*
Hungary	Budapest
India	New Delhi
	Bombay*
Indonesia	Jakarta
	Bali***
Iran	Tehran
Iraq	Baghdad
Ireland	Dublin
Israel	Tel Aviv
Italy	Rome
Jamaica	Kingston
Japan	Tokyo
Jordan	Amman
Kenya	Nairobi
Kiribati	Tarawa
Korea, Republic of	Seoul
Laos	Vientiane
Malaysia	Kuala Lumpur
Malta	Malta
Mauritius	Port Louis
Mexico	Mexico City
Myanmar (Burma)	Yangon
Nauru	Nauru
Nepal	Kathmandu
Netherlands	The Hague
New Zealand	Wellington
Nigeria	Lagos
Pakistan	Islamabad
Papua New Guinea	Port Moresby
Philippines	Manila
Poland	Warsaw
Portugal	Lisbon
Saudi Arabia	Riyadh
Singapore	Singapore
Solomon Islands	Honiara
South Africa	Pretoria
Spain	Madrid
Sri Lanka	Colombo
Sweden	Stockholm
Swizerland	Berne
Syria	Damascus
Thailand	Bangkok
Tonga	Nuku'alofa
Turkey	Ankara
United Kingdom	London
United States	Washington
	Chicago*
	Honolulu*
	Houston*
	Los Angeles*
	New York—CG*
	San Francisco*
USSR	Moscow
Vanuatu	Port Vila
Vatican	Holy See**
Venezuela	Caracas
Vietnam	Hanoi
Western Samoa	Apia
Yugoslavia	Belgrade
Zambia	Lusaka
Zimbabwe	Harare

Australia also maintained five separate permanent missions in:

New York—UN
Geneva—UN
Geneva—Disarmament
Geneva—GATT
Paris—OECD

The Australian Trade Commission maintained trade missions with diplomatic or consular status in the following cities:

Auckland, Frankfurt, Jeddah, Milan, Osaka, Toronto and Vancouver.

The Department of Immigration, Local Government and Ethnic Affairs maintained offices with consular status in Manchester and Edinburgh.

* Consulate-General
** Charge d'affaires
*** Consulate

4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher Defence organisation; defence personnel and equipment developments; the functions, organisations, staffing and training of the three Services; and the functions and activities of the Defence support organisations.

Further information on current defence planning and activities is available in the Defence Report and other publications of the Department of Defence, and in statements to the House of Representatives by the Minister for Defence and the Minister for Defence Science and Personnel.

Current Defence Policy

In March 1987 the Government released its White Paper on the Defence of Australia which outlined a comprehensive approach to Australian security and a basis for future planning, force development and defence activities.

The policy of defence self-reliance emphasises the ability to defend Australia and its direct interests using our own resources. This policy is pursued within an international framework of alliances and agreements which reflect Australia's commitment to contribute to peace and stability.

The security of our immediate geographic region is of fundamental strategic importance to Australia, and the continued development of an independent defence capability enhances our ability to contribute to peaceful development within the region. Priority in defence activity is consequently given to areas in Australia's region and high value is placed on fostering defence relationships with the countries of South East Asia and the South West Pacific.

Australia's security arrangements with the United States and New Zealand remain an important element of our defence policy. Although trilateral defence cooperation activities under the ANZUS alliance have been in abeyance due to the New Zealand Government's policy on visits by nuclear-powered and nuclear-weapon capable warships, the ANZUS alliance itself remains in force and continues to provide a background for a wide range of mutually beneficial bilateral defence cooperative activities with the United States. At the same time cooperative activities and projects undertaken with New Zealand continue to sustain Australia's close defence relationship with that country.

Australia's security prospects are favourable. Our relationships with our allies and neighbours are basically sound and we face no identifiable military threats. Nevertheless, our defence planning recognises the possibility that threats could arise, which would have consequences for our security. A high priority is given to the development of military capabilities in the Australian Defence Force (ADF) which will enable it to defeat more limited threats that could arise at shorter notice. Defence planning also aims to ensure that there are options for a future response to more serious challenges to our security.

Industry policy

Defence policy for industry forms an integral part of overall defence policy in meeting the requirements for defence self-reliance. The capacity of industry to maintain, repair, modify and adapt defence equipment independently of overseas sources is fundamental to the self-reliant defence of Australia. The development of this capacity as well as the maintenance of an adequate supply of replacement equipment and stores are prime defence policy objectives.

Higher Defence Organisation

The higher organisation of the ADF is dealt with in the *Defence Act 1903*, which provides that responsibility for the general control and administration of the ADF rests with the Minister for Defence. Under arrangements introduced in 1987, the Minister for Defence Science and Personnel has particular responsibilities within the Defence portfolio for the oversight of the Defence Science and Technology Organisation and ADF personnel matters.

The Minister for Defence has issued three directives laying out the responsibilities, both individually and jointly, of the Secretary and the Chief of the Defence Force (CDF). Under these directives the Secretary administers the Department of Defence and is responsible for advice to the Minister for Defence and the Minister for Defence Science and Personnel on policy, resources and organisation.

The CDF commands the Australian Defence Force and is responsible for advice to the Minister on the military aspects of ADF development including the size of the ADF and the balance within it in relation to strategic requirements.

The Secretary and the CDF are jointly responsible for advice on personnel policy requirements, including conditions of service, for the ADF; on promoting the efficient and economical use of resources within the ADF; for the continuing review of the adequacy of the organisation and administration of the Department of Defence and the ADF; and for recommending promotions and postings of two star officers and above, and the posting of one star officers to appointments which have more than single Service implications.

Major Defence Committees include the Council of Defence and the Defence Committee.

The function of the Council is to consider and discuss matters relating to the control and administration of the ADF and its respective arms referred to it by the Minister.

The Committee advises the Minister on:

- defence policy as a whole;
- the coordination of military, strategic, economic, financial and external affairs aspects of defence policy;
- matters of policy or principle and important questions having a joint Service or interdepartmental defence aspect; and
- such other matters having a defence aspect as are referred to the Committee by or on behalf of the Minister.

Defence Expenditure

The following tables give information about levels, categories and major items of defence expenditure.

DEFENCE FUNCTION EXPENDITURE, REVENUE AND OUTLAY, PERCENTAGE OF BUDGET OUTLAY AND GROSS DOMESTIC PRODUCT 1977–78 to 1988–89

	Expenditure $m	*Less revenue $m*	*Outlays $m*	*Per cent of budget sector outlays*	*Per cent of GDP*
1977–78	2,434	94	2,340	8.8	2.5
1978–79	2,658	90	2,568	8.8	2.4
1979–80	3,064	99	2,965	9.3	2.4
1980–81	3,657	166	3,491	9.6	2.5
1981–82	4,262	207	4,055	9.8	2.6
1982–83	4,940	239	4,701	9.5	2.8
1983–84	5,538	239	5,299	9.3	2.8
1984–85	6,229	291	5,938	9.2	2.8
1985–86	6,982	308	6,674	9.5	2.8
1986–87	7,578	370	7,208	9.5	2.8
1987–88	7,754	332	7,422	9.4	2.5
1988–89	8,171	391	7,780	9.5	2.3

EXPENDITURE ON DEFENCE FUNCTION

	1987–1988		*1988–89*			
	Achieved		*Budget*		*Achieved*	
Major categories	*$m*	*per cent*	*$m*	*per cent*	*$m*	*per cent*
Capital equipment	1,733.296	22.4	1,845.627	22.9	1,778.571	21.8
Capital facilities	359.016	4.6	416.879	5.2	383.568	4.1
Personnel						
Service	2,136.485	27.6	2,201.117	27.3	2,262.621	27.7
Civilian	638.288	8.2	646.628	8.0	676.885	8.3
DFRDB and Special appropriations	558.094	7.2	614.733	7.6	594.447	7.3
Total personnel costs	*3,332.867*	*43.0*	*3,462.478*	*43.0*	*3,533.953*	*43.3*
Defence cooperation	57.538	0.7	60.212	0.7	60.596	0.7
Other operating costs						
Maintenance stores	723.655	9.3	755.632	9.4	747.185	9.1
Equipment repair	267.042	3.4	295.309	3.7	278.954	3.4
Building repair	167.785	2.2	165.081	2.0	170.866	2.1
Administrative expenses and other services	874.638	11.3	836.806	10.4	990.035	12.1
Rent	27.842	0.4	32.822	0.4	31.709	0.4
Total other operating costs	*2,060.962*	*26.6*	*2,085.650*	*25.9*	*2,218.749*	*27.2*
Defence housing	210.552	2.7	186.364	2.3	195.487	2.4
Expenditure	***7,754.231***	***100.0***	***8,057.210***	***100.0***	***8,170.924***	***100.0***
Revenue	*–339.890*		*–456.108*		*–433.807*	
Trust accounts	*7.818*		*–2.908*		*43.301*	
Prospective wage and salary increases	*—*		*60.000*		*—*	
Defence function outlay	**7,422.159**		**7,658.194**		**7,780.418**	
Defence appropriations attributable to other functions						
Cultural and recreation	1.895		1.949		1.967	

MAJOR ITEMS OF INVESTMENT EXPENDITURE IN 1988–89

Projects	*Expenditure*
	$m
F/A 18 project and associated equipment	387.2
Six submarines	372.8
Black Hawk helicopters	87.0
Seahawk helicopters	83.3
Basic trainer aircraft	50.1
Army light field vehicles	47.3
Construction of 2 FFG frigates	36.3
Defence integrated secure communication network	35.7
DDG modernisation	31.0
Tindal Air Base	30.0
Acquisition of 4 FFG frigates	28.6
105mm Army field gun	28.4
HF and VHF single channel radios	27.8
Wheeled armoured fighting vehicles	25.3
Medium trucks for Army	23.6
Acquisition of small arms	22.7
Precision guided weapons	18.3
Jindalee upgrade	16.9
Mulwala project	11.6
Seahawk flight simulator/weapons system trainer	11.1
ANZAC Ships	10.0

AUSTRALIAN DEFENCE FORCE

The objective of the ADF is to plan, develop and maintain forces for contingencies within Australia's area of direct military interest and to defend Australia and its interests. The ADF is to be structured to be able to undertake current and foreseeable peacetime operational tasks as directed by the government; deal effectively with the levels of credible contingencies that could arise over shorter timescales; and provide a suitable basis for timely expansion to meet higher levels of threat if Australia's strategic circumstances deteriorated over the longer term.

Meeting the requirements for the defence of Australia provides the government with practical options for the use of elements in the ADF in tasks beyond Australia's area of direct military interest in support of regional friends and of allies.

The CDF commands the ADF and is principal military adviser to the government. Headquarters Australian Defence Force has been expanded and strengthened over recent years to reflect the importance of integrated planning for ADF operations, and for effective joint operations in credible contingencies.

Royal Australian Navy

The objective of the RAN is to raise, train and maintain seaborne forces structured to be able to deal with credible maritime contingencies in Australia's area of direct military interest (generally as part of a joint force) and provide a base for longer term expansion should this be required.

Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the command of the ADF by the CDF. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of Naval Staff, the Assistant Chief of Naval Staff (Development), the Assistant Chief of Naval Staff (Personnel), the Assistant Chief of Naval Staff (Logistics), the Assistant

Chief of Naval Staff (Materiel) and the Director General of Supply (Navy). Other senior officers of the RAN include the Flag Officer Naval Support Command and the Flag Officer Commanding HM Australian Fleet.

Ships of the Royal Australian Navy

The Fleet

Guided missile destroyers: *Perth*, *Hobart*, *Brisbane*; guided missile frigates: *Adelaide*, *Canberra*, *Sydney*, *Darwin*; destroyer escorts: *Parramatta*, *Stuart*, *Torrens*, *Derwent*, *Swan*; submarines: *Oxley*, *Otway*, *Ovens*, *Onslow*, *Orion*, *Otama*; coastal minehunter: *Curlew*; inshore minehunters: *Rushcutter*, *Shoalwater*; amphibious heavy lift ship: *Tobruk*; landing craft heavy: *Balikpapan (a)*, *Wewak (a)*, *Tarakan (a)*, *Labuan (b)*; attack class patrol boats: *Aware (b)*, *Adroit (b)*, *Ardent (b)*; Fremantle class patrol boats: *Fremantle (b)*, *Wollongong*, *Dubbo*, *Geraldton*, *Bunbury*, *Ipswich*, *Townsville*, *Bendigo*, *Whyalla*, *Gladstone*, *Warrnambool (b)*, *Cessnock*, *Launceston*, *Gawler*, *Geelong*; training ship: *Jervis Bay*; fleet oiler: *Success*; auxiliary tanker: *Westralia*; hydrographic survey ships: *Moresby*, *Flinders*; oceanographic survey ship: *Cook*; interim survey ships: *Betano (c)*, *Brunei (c)*.

NOTES:
(a) Operational Reserve. *(b)* Crewed by Reserves. *(c)* Landing craft heavy.

Fleet Air Arm

The RAN currently operates three different types of helicopters (anti-submarine Sea King Mk50 and Mk50A, and Kiowa and Squirrel) and HS748 electronic warfare training aircraft from HMAS *Albatross*, the Naval Air Station at Nowra in New South Wales. Seahawk helicopters are being acquired. The RAN also operates Jindivik pilotless target aircraft from the Jervis Bay Range facility.

Force structure

The future structure of a numerically larger surface combatant force is based upon development of three tiers of capability as set out in the 1987 White Paper.

The FFG-7 Class frigates (FFGs) and the guided missile destroyers (DDGs) satisfy the first tier requirements. The DDGs are undergoing a modernisation program and the FFGs are being modified to accept the Seahawk helicopter. Two additional FFG-7 Class frigates, *Melbourne* and *Newcastle*, are under construction at Williamstown, Victoria.

The destroyer escorts are effective general purpose warships which presently fill the second tier level of capability. These ships played a major part in expanding the RAN presence in South-East Asia with deployments to Singapore and participation in exercises under the Five Power Defence Arrangements. The new ANZAC Class frigates will also be in this tier.

The third tier capability is provided by the Fremantle Class patrol boats. These vessels, amongst other duties, maintained 1,839 days on patrol in the Australian Fishing Zone and made 40 arrests of foreign vessels illegally fishing in the Zone.

Australian Army

The objective of the Australian Army is to raise, train and maintain ground forces structured to deal with credible land contingencies in the defence of Australia, its territories and interests, generally as part of a joint force, using both Regular and Reserve forces; and provide a basis for longer term expansion.

Higher organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the ADF by the CDF. His principal staff officers are the Deputy Chief of the General Staff, Assistant Chief of the General Staff—Operations, Assistant Chief of the General Staff—Personnel, Assistant Chief of the General Staff—Logistics, Assistant Chief of the General Staff—Materiel and the Assistant Chief of the General Staff—Army Reserve.

The Army is organised into three commands as follows:

- *Land Command*—commands all field army units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command*—commands the principal logistic elements of the Army.
- *Training Command*—is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon which is under the command of the Chief of the General Staff.

Military districts as listed below provide administrative support for the three commands and, in certain cases, act as intermediate headquarters for them. The military district headquarters also handle those matters in which both Commonwealth and State governments are involved.

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th military districts.
- *3rd Military District*—the State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia, less the Kimberley Local Government Area.

Force structure

The Army's structure must include highly mobile forces capable of rapid deployment anywhere within Australia, its territories and its area of direct military interest, and able to conduct protracted and dispersed operations in harsh terrain where the existing infrastructure and resources are sparse.

The Army combat force structure is based on provision of a ready deployment force, a manoeuvre force, ready deployment force augmentation units, expansion base force for higher levels of conflict and communication support forces. These forces include:

- ground surveillance and reconnaissance capabilities;
- a light air portable force, including an airborne (parachute) element, capable of rapid deployment within Australia and its territories;
- tactical battlefield air support and mobility, including helicopters;
- a force in support of the civil authorities capable of resolving high risk terrorist incidents;
- forces capable of following up initial deployments;
- forces of greater combat power to reinforce deployed formations if necessary; and
- forces capable of deploying to defend vital defence installations and national infrastructure.

Royal Australian Air Force

The function of the RAAF is the conduct of operations in the air for the defence of Australia and Australian interests.

Higher organisation

The RAAF is commanded by the Chief of the Air Staff (CAS) who is responsible to the Minister for Defence through the CDF for that command. He is assisted by the Deputy Chief of the Air Staff and Assistant Chief of the Air Staff (Development), Assistant Chief of the Air Staff (Materiel), Assistant Chief of the Air Staff (Personnel), Assistant Chief of the Air Staff (Engineering) and Assistant Chief of the Air Staff (Supply), all located in Air Force Office.

RAAF commands

The RAAF is organised into two functional commands—Air Command with headquarters at Glenbrook and Support Command with headquarters in Melbourne. Air Command is responsible for the conduct of air operations and operational training while Support Command is responsible for basic training logistics and maintenance of RAAF equipment. Air Command comprises the following groups: Strike/Reconnaisance Group (SRG), Tactical Fighter Group (TFG), Airlift Group (ALG), Maritime Patrol Group (MPG), and Tactical Transport Group (TTG).

Aircraft

Air Command

SRG — F-111 (Amberley)

TFG — F/A-18 Hornet, Macchi (Williamtown and Tindal)

ALG — C130 Hercules, Boeing 707, Falcon 900, HS748 (Richmond, East Sale and Canberra)

MPG — P3C Orion (Edinburgh)

TTG — Caribou, Squirrel (Townsville and Canberra)

Support Command

Basic Pilot Training—CT4, Macchi and PC9 (Point Cook and Pearce)

Instructor Pilot Training—CT4, Macchi and PC9 (East Sale)

Navigator Training—HS748 (East Sale)

Force structure

The Air Force structure reflects the need for air forces to be capable of conducting independent as well as supporting maritime and land operations. The Air Force is to provide:

- national airspace surveillance and control together with broad area surveillance and a capability for air intercepts;
- combat aircraft for air defence and offensive air support;
- combat aircraft for reconnaissance and strike against maritime and land targets;
- a long range maritime patrol force for sea surveillance, maritime targeting and strike, antisubmarine warfare, aerial mine laying and search and rescue;
- an air transport force for strategic transport and air to air refuelling;
- a tactical air transport force to support land operations;
- transport aircraft for special transport operations such as VIP tasks and aeromedical evacuation;
- a search and rescue capability for RAAF and foreign military aircraft operating in the Australian area;
- a command and control organisation; and
- a logistics organisation for supporting the operation and deployment of forces.

Defence Personnel

In keeping with the requirements of the Defence Policy Information Paper, a Personnel Resource Strategy has been introduced. The objective of the Strategy is to promote the most effective use of all Defence personnel resources including Regular and Reserve Forces, civilians and contractors.

Service personnel

An important element of the Personnel Resource Strategy is the creation of a Trained Force and a Training Force in the ADF. The Trained Force is designed to effectively meet the operational tasks required by the government. The Training Force is conceived as a flexibly-sized element of the ADF whose main objective is to provide comprehensive pre-employment training to newly recruited cadets and trainees. When trained, these personnel are made available to the Trained Force to maintain its strength. The strategy insulates the Trained Force from the influences of variable separation rates in ADF personnel.

DISTRIBUTION OF SERVICE PERSONNEL AND CIVILIAN STAFF AVERAGE STRENGTH 1988–89

	Navy	*Army*	*RAAF*	*ADF*	*Civilians(a)*	*Total*
Current Defence Forces						
ADF Command	432	623	442	1,497	270	1,767
Navy	14,974	..	..	14,974	5,114	20,088
Navy Reserves *(b)*	156	..	..	156	..	156
Army	7	31,118	..	31,125	6,769	37,894
Army Reserves *(b)*	..	2,663	..	2,663	..	2,663
Air Force	..	..	21,696	21,696	3,097	24,793
Air Force Reserves *(b)*	..	..	222	222	..	222
Total	*15,569*	*34,404*	*22,360*	*72,333*	*15,250*	*87,583*
Defence development						
Procurement of capital equipment	17	9	40	66	669	735
Procurement of capital facilities	..	2	20	22	137	159
Total	*17*	*11*	*60*	*88*	*806*	*894*
Defence support						
Natural disasters and civil defence	1	2	..	3	62	65
Defence housing	..	1	..	1	..	1
Defence production *(c)*	28	..	..	28	234	262
Defence science and technology	8	12	13	33	3,965	3,998
Total (d)	*37*	*15*	*13*	*65*	*4,261*	*4,326*
Corporate services						
Executive	..	..	..	..	5	5
Personnel, management improvement and financial services	128	24	152	304	4,044	4,348
Strategic planning	43	91	87	221	408	629
Logistics organisation	3	14	18	35	554	589
Total	*174*	*129*	*257*	*560*	*5,011*	*5,571*
Total	**15,797**	**34,559**	**22,690**	**73,046**	**25,328**	**98,374**

(a) Civilian figures include paid inoperative staff, part-time staff and casual labour expressed as full-time equivalents. *(b)* The figure for Reserves shows the average number of full-time equivalent Reserves for the year. For budget purposes the average number of staff years is calculated from the number of training days used. *(c)* On 3 May 1989 Australian Defence Industries Pty Ltd took formal control of the defence factories and Garden Island Dockyard. *(d)* The defence support total excludes 6,997 staff funded through Trust Accounts.

Defence Support Organisations

Acquisition and Logistics Organisation—ALO

On 17 March 1989 the Secretary announced that the Capital Procurement Organisation and the Defence Logistics Organisation were to be merged into a single entity, the ALO. The Defence Contracting Organisation was to remain autonomous. The merger is designed to enhance departmental efficiency and productivity.

Major activities

The major areas of activity during 1988–89 were:

- policy development on ADF stockholdings, rehabilitation of lands affected by unexploded ordnance, safety principles for storage of ammunition and explosives, defence calibration and testing laboratory requirements;
- reviews of ADF supply services, the Defence Quality Assurance Organisation, procurement approvals processes, the Defence Contracting Organisation, the provision of fuel and lubricants to the ADF and the Defence/ADF commercial vehicle fleet;
- development of rationalisation plans for bombing ranges, explosive ordnance facilities and reserve stocks in support of the manufacture of munitions;
- provision of project material and management support for Defence cooperation activities and negotiation of logistic support arrangements with a number of countries;
- initial work on the establishment of a single Defence Quality Assurance Organisation;
- enhancement of numerous computer applications systems, provision of additional on-line enquiry-update network terminals and increased mass storage capacity of the logistics development back-up site, and upgrade network minicomputer system hardware and software;
- progression of the Supply Systems Redevelopment Project;
- reorganisation of the Defence Contracting Organisation including the establishment of a regional office in Canberra;
- finalisation and implementation of the Desine computer acquisition contract;
- the development of policy for the management of information into the 1990s; and
- the assumption of management responsibility for the Melbourne computing bureau which services the ADF and the Department.

Defence Contracting Organisation

The Organisation arranged 2,447 contracts in 1988–89, valued at $1,453 million. Specific achievements were the revision of contract escalation provisions; implementation of revised tender advertising procedures; and the expansion of the existing ADP network to provide on-line functions between all regions as well as software enhancements to provide greater management reporting. The development of a computerised system for the construction of tender and contract documents, and of a market intelligence database, is near completion.

Defence Science and Technology Organisation—DSTO

DSTO forms the second largest research organisation in Australia, employing some 1,000 professional scientists and engineers in its total staff of about 4,300. It has representatives in London and Washington, and establishments in five States.

DSTO develops and maintains a base of skill and knowledge in defence science and technology, and fosters scientific and technological expertise in industry. It interacts with tertiary institutions in selected fields, concentrating on areas of priority to the Australian strategic and natural environment. It contributes to the solution of scientific and technological problems of the Defence organisation and relevant Australian industries.

Structure

The reorganisation of the DSTO laboratory structure has now been implemented, resulting in five mission-oriented laboratories with integrated scientific and engineering functions, as follows:

- Aeronautical Research Laboratory, based in Melbourne, with a Salisbury (SA) component;
- Electronics Research Laboratory, based in Salisbury;
- Materials Research Laboratory, based in Melbourne, with components in Pyrmont (Sydney), Scottsdale (Tasmania) and Innisfail (North Queensland);
- Surveillance Research Laboratory, based in Salisbury; and
- Weapons Systems Research Laboratory, based in Salisbury, with components of two divisions in Pyrmont.

Defence Production

The defence production sub-program up to 3 May 1989 was administered by the Office of Defence Production which operated a complex business to provide products and services primarily for the ADF. The scope of the business ranges from major ship repair and heavy engineering work such as the manufacture of gun-based weapons systems, through chemicals, explosives and clothing manufacture to the overhaul, testing and repair of complex weapons systems and equipment and testing of antennae. Progress towards improving the efficiency and competitiveness of the industrial capability which supports the ADF took a major step forward with the decision to move the principal defence production capabilities outside the Department of Defence and form a government-owned company to manage them. Formation of the company, Australian Defence Industries Pty Ltd (ADI), was announced by the Minister for Defence in August 1988. On 3 May 1989 ADI took formal control of the defence factories and Garden Island Dockyard.

Transition to a government company

The formation of ADI completes the transition of most government-owned, departmentally operated establishments, to the private sector. Only the Explosives Factory, Maribyrnong remains as an operating facility in government hands. This factory will be progressively closed, with its capabilities being transferred to other establishments by the end of 1990.

Since the formation of ADI was announced, rationalisation of the Office of Defence Production's factories and its headquarters has taken place in preparation for the transition to a corporate body, with progressively more autonomy for factories and less day by day management from headquarters. After transition, the company will operate with four business divisions:

- Naval Engineering Division:
  - — ADI Garden Island Facility,
  - — ADI St Marys Electronics Facility;
- Ammunition and Missiles Division:
  - — ADI Footscray Facility,
  - — ADI Mulwala Facility,
  - — ADI St Marys Facility,
  - — ADI Salisbury Facility;
- Weapons and Engineering Division:
  - — ADI Bendigo Facility,
  - — ADI Maribyrnong Facility,
  - — ADI Lithgow Facility; and
- Military Clothing Division:
  - — ADI Coburg Facility.

Extensive consultations with trade unions were undertaken, and have led to the ratification by the Industrial Relations Commission of a 'demarcation free award'. A workforce reduction program took place prior to the transition to ADI in order to remove excess overheads and realign staffing levels to present workloads.

Natural Disasters Organisation—NDO

NDO has a number of responsibilities aimed at minimising the effects of natural disasters on the Australian community and provides infrastructure and training to cope with natural disasters. In discharging these responsibilities it:

- develops national counter-disaster plans and civil defence policy and plans;
- coordinates the provision by the Commonwealth of physical assistance to the States and Territories in the event of a disaster;
- operates the National Emergency Operations Centre;

- coordinates government and non-government disaster relief to Papua New Guinea and the South-West Pacific nations at the request of the Australian Development Assistance Bureau;
- directs Commonwealth support programs to the State and Territory Emergency Services;
- maintains fallout shelter survey expertise; and
- directs the Australian Counter Disaster College in training and educating disaster managers and researching aspects of disasters and of disaster management.

5

PHYSICAL GEOGRAPHY AND CLIMATE OF AUSTRALIA

This chapter is concerned with the physical geography of Australia and Australia's climate. Detailed climatic data for each capital city are included at the end of the chapter.

Geography of Australia

Position and area

Position

Australia comprises a land area of 7,682,300 square kilometres. The land lies between latitudes 10°41′S. (Cape York) and 43°39′S. (South Cape, Tasmania) and between longitudes 113°09′E. (Steep Point) and 153°39′E. (Cape Byron). The most southerly point on the mainland is South Point (Wilson's Promontory) 39°08′S. The latitudinal distance between Cape York and South Point is about 3,180 kilometres, while the latitudinal distance between Cape York and South East Cape, Tasmania, is 3,680 kilometres. The longitudinal distance between Steep Point and Cape Byron is about 4,000 kilometres.

Area of Australia compared with other countries

The area of Australia is almost as great as that of the United States of America (excluding Alaska), about 50 per cent greater than Europe (excluding USSR) and 32 times greater than the United Kingdom. The following table shows the area of Australia in relation to areas of other continents and selected countries.

AREAS OF CONTINENTS AND SELECTED COUNTRIES
('000 square kilometres)

Country	*Area*	*Country*	*Area*
Continental divisions—		Canada	9,976
Europe *(a)*	4,936	China	9,590
Asia *(a)*	27,532		
USSR (Europe and Asia)	22,402	Germany, Federal Republic of	248
Africa	30,319	India	3,288
		Indonesia	1,919
North and Central America and West Indies	24,247	Japan	372
South America	17,834	Papua New Guinea	462
Oceania	8,504	New Zealand	269
		United Kingdom	244
Country—		United States of America *(b)*	9,363
Australia	7,682		
Brazil	8,512	**Total, land mass excluding Arctic and Antarctic continents**	**135,774**

(a) Excludes USSR, shown below. *(b)* Includes Hawaii and Alaska.

Rivers and lakes

The rivers of Australia may be divided into two major classes, those of the coastal margins with moderate rates of fall and those of the central plains with very slight fall. Of the rivers of the east coast, the longest in Queensland are the Burdekin and the Fitzroy, while the Hunter is the largest coastal river of New South Wales. The longest river system in Australia is the Murray–Darling which drains part of Queensland, the major part of New South Wales and a large part of Victoria, finally flowing into the arm of the sea known as Lake Alexandrina, on the eastern side of the South Australian coast. The length of the Murray is about 2,520 kilometres and the Darling and Upper Darling together are also just over 2,500 kilometres long. The rivers of the north-west coast of Australia, e.g. the Murchison, Gascoyne, Ashburton, Fortescue, De Grey, Fitzroy, Drysdale and Ord, are of considerable size. So also are those rivers in the Northern Territory, e.g. the Victoria and Daly, and those on the Queensland side of the Gulf of Carpentaria, such as the Gregory, Leichhardt, Cloncurry, Gilbert and Mitchell. The rivers of Tasmania have short and rapid courses, as might be expected from the configuration of the country.

There are many types of lake in Australia, the largest being drainage sumps from the internal rivers. In dry seasons these lakes finally become beds of salt and dry mud. The largest are Lake Eyre 9,500 square kilometres, Lake Torrens 5,900 square kilometres and Lake Gairdner 4,300 square kilometres.

Other lake types are glacial, most common in Tasmania; volcanic crater lakes predominantly in Victoria and Queensland; fault angle lakes, of which Lake George near Canberra is a good example and coastal lakes formed by marine damming of valleys.

Area, coastline, tropical and temperate zones, and standard times

The areas of the States and Territories and the length of the coastline were determined in 1973, by the then Division of National Mapping, Department of National Resources, by manually digitising these features from the 1:250,000 map series of Australia. This means that only features of measurable size at this scale were considered. About 60,000 points were digitised at an approximate spacing of 0.5 kilometre. These points were joined by chords as the basis for calculation of areas and coastline lengths by computer.

The approximate high water mark coastline was digitised and included all bays, ports and estuaries which are open to the sea. In these cases, the shoreline was assumed to be where the seaward boundary of the title of ownership would be. In mangroves, the shoreline was assumed to be on the landward side. Rivers were considered in a similar manner but the decisions were rather more subjective, the line being across the river where it appeared to take its true form.

AREA, COASTLINE, TROPICAL AND TEMPERATE ZONES, AND STANDARD TIMES
AUSTRALIA

	Estimated area			*Percentage of total area*		*Standard times*	
State or Territory	*Total*	*Percentage of total area*	*Length of coastline*	*Tropical zone*	*Temperate zone*	*Meridian selected*	*Ahead of GMT(a)*
	km^2		km				hours
New South Wales	801,600	10.43	1,900	..	100	150°E	*(b)*10.0
Victoria	227,600	2.96	1,800	..	100	150°E	*(b)*10.0
Queensland	1,727,200	22.48	7,400	54	46	150°E	10.0
South Australia	984,000	12.81	3,700	..	100	142°30'E	*(b)*9.5
Western Australia	2,525,500	32.87	12,500	37	63	120°E	8.0
Tasmania	67,800	0.88	3,200	..	100	150°E	*(b)*10.0
Northern Territory	1,346,200	17.52	6,200	81	19	142°30'E	9.5
Australian Capital Territory	2,400	0.03	35	..	100	150°E	*(b)*10.0
Australia	**7,682,300**	**100.00**	**36,735**	**39**	**61**	. .	. .

(a) Greenwich Mean Time. *(b)* For States with 'daylight saving' an hour should be added for this period.

Climate of Australia

Introduction

The island continent of Australia features a wide range of climatic zones, from the tropical regions of the north, the arid expanses of the interior, to the temperate regions of the south.

Widely known as 'The Dry Continent', the land mass is relatively arid, with 80 per cent having a median rainfall less than 600 millimetres per year and 50 per cent less than 300 millimetres. Seasonal fluctuations can be great, with temperatures ranging from above 50°C to well below zero. However, extreme minimum temperatures are not as low as those recorded in other continents because of the absence of extensive mountain masses and because of the expanse of the surrounding oceans.

Although the climate can be described as predominantly continental, the insular nature of the land mass produces modifications to the general continental pattern.

Australia can be host to any of nature's disasters, particularly droughts, floods, tropical cyclones, severe storms and bushfires.

Climatic controls

The generally low relief of Australia causes little obstruction to the atmospheric systems which control the climate. A notable exception is the eastern uplands which modify the atmospheric flow.

In the winter half of the year (May–October) anticyclones, or high pressure systems, pass from west to east across the continent and often remain almost stationary over the interior for several days. These anticyclones may extend to 4,000 kilometres along their west–east axes. Northern Australia is then influenced by mild, dry south-east trade winds, and southern Australia experiences cool, moist westerly winds. The westerlies and the frontal systems associated with extensive depressions travelling over the Southern Ocean have a controlling influence on the climate of southern Australia during the winter season, causing rainy periods. Periodic north-west cloud bands in the upper levels of the atmosphere over the continent may interact with southern systems to produce rainfall episodes, particularly over eastern areas. Cold outbreaks, particularly in south-east Australia, occur when cold air of Southern Ocean origin is directed northwards by intense depressions having diameters up to 2,000 kilometres. Cold fronts associated with the southern depressions, or with secondary depressions over the Tasman Sea, may produce large day-to-day changes in temperature in southern areas, particularly in south-east coastal regions.

In the summer half of the year (November–April) the anticyclones travel from west to east on a more southerly track across the southern fringes of Australia directing easterly winds generally over the continent. Fine, warmer weather predominates in southern Australia with the passage of each anticyclone. Heat waves occur when there is an interruption to the eastward progression of the anticyclone (blocking) and winds back northerly and later north-westerly. Northern Australia comes under the influence of summer disturbances associated with the southward intrusion of warm moist monsoonal air from north of the inter-tropical convergence zone, resulting in a hot rainy season. Southward dips of the monsoonal low pressure trough sometimes spawn tropical depressions, and may prolong rainy conditions over northern Australia for episodes up to three weeks at a time.

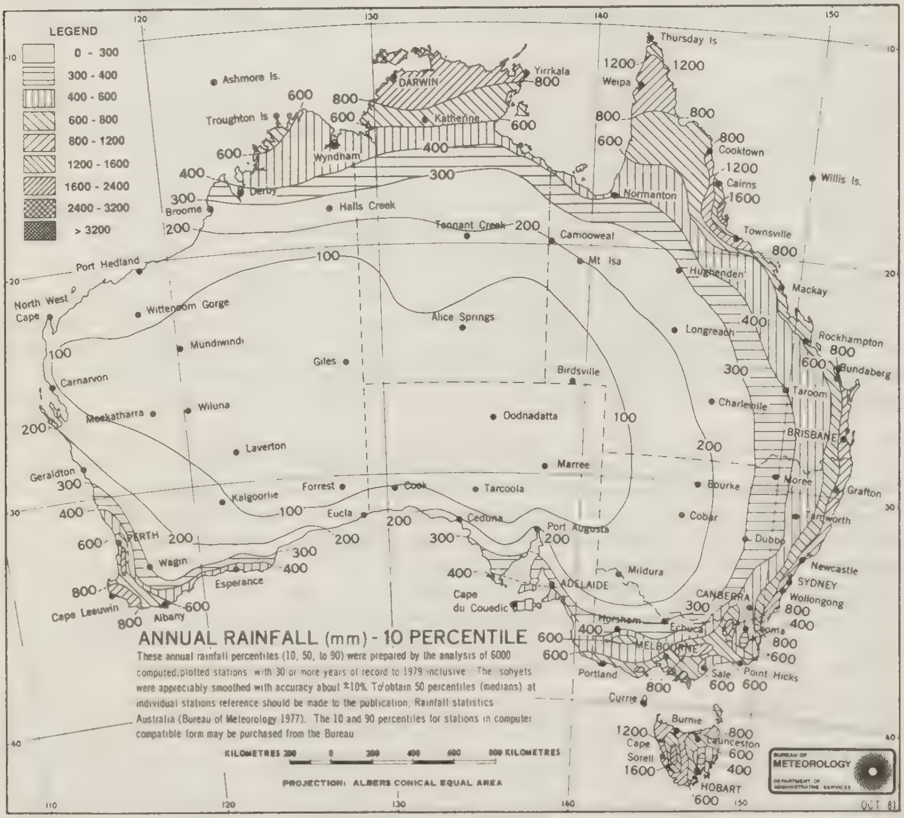
Tropical cyclones develop over the seas around northern Australia in summer between November and April. Their frequency of occurrence and the tracks they follow vary greatly from season to season. On average, about three cyclones per season directly affect the Queensland coast, and about three affect the north and north-west coasts. Tropical cyclones approaching the coast usually produce very heavy rain and high winds in coastal areas. Some cyclones move inland, losing intensity but still producing widespread heavy rainfall.

Rainfall

Annual

The annual 10, 50 and 90 percentile* rainfall maps are shown on Figures 1, 2 and 3 respectively. The area of lowest rainfall is in the vicinity of Lake Eyre in South Australia, where the median (50 percentile) rainfall is only about 100 millimetres. Another very low rainfall area is in Western Australia in the Giles–Warburton Range region, which has a median annual rainfall of about 150 millimetres. A vast region, extending from the west coast near Shark Bay across the interior of Western Australia and South Australia to south-west Queensland and north-west New South Wales, has a median annual rainfall of less than 200 millimetres. This region is not normally exposed to moist air masses for extended periods and rainfall is irregular, averaging only one or two days per month. However, in favourable synoptic situations, which occur infrequently over extensive parts of the region, up to 400 millimetres of rain may fall within a few days and cause widespread flooding.

The region with the highest median annual rainfall is the east coast of Queensland between Cairns and Cardwell, where Tully has a median of 4,048 millimetres (63 years to 1987 inclusive). The mountainous region of western Tasmania also has a high annual rainfall, with Lake Margaret having a median of 3,565 millimetres (76 years to 1987 inclusive). In the mountainous areas of north-east Victoria and some parts of the east coastal slopes there are small pockets with median annual rainfall greater than 2,500 millimetres, but the map scale is too small for these to be shown.


LEGEND
0 - 300
300 - 400
400 - 600
600 - 800
800 - 1200
1200 - 1600
1600 - 2400
2400 - 3200
> 3200
120
130
140
150
10
20
30
40
110
Ashmore Is.
Troughton Is
DARWIN
Katherine
Yirrkala
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Thursday Is
Weipa
Cooktown
Cairns
Willis Is.
Normanton
Camooweal
Mt Isa
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Carnarvon
Giles
Birdsville
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
ADELAIDE
Newcastle
SYDNEY
Wollongong
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
100
200
300
400
600
800
1200
1600
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ANNUAL RAINFALL (mm) - 10 PERCENTILE

These annual rainfall percentiles (10, 50, to 90) were prepared by the analysis of 6000 computed, plotted stations with 30 or more years of record to 1979 inclusive. The sohyets were appreciably smoothed with accuracy about ±10%. To obtain 50 percentiles (medians) at individual stations reference should be made to the publication, Rainfall statistics Australia (Bureau of Meteorology 1977). The 10 and 90 percentiles for stations in computer compatible form may be purchased from the Bureau

KILOMETRES 200 0 200 400 600 800 KILOMETRES

PROJECTION: ALBERS CONICAL EQUAL AREA

FIGURE 1

---

*The amounts that are not exceeded by 10, 50 and 90 per cent of all recordings are the 10, 50 and 90 percentiles or the first, fifth and ninth deciles respectively. The 50 percentile is usually called the median.

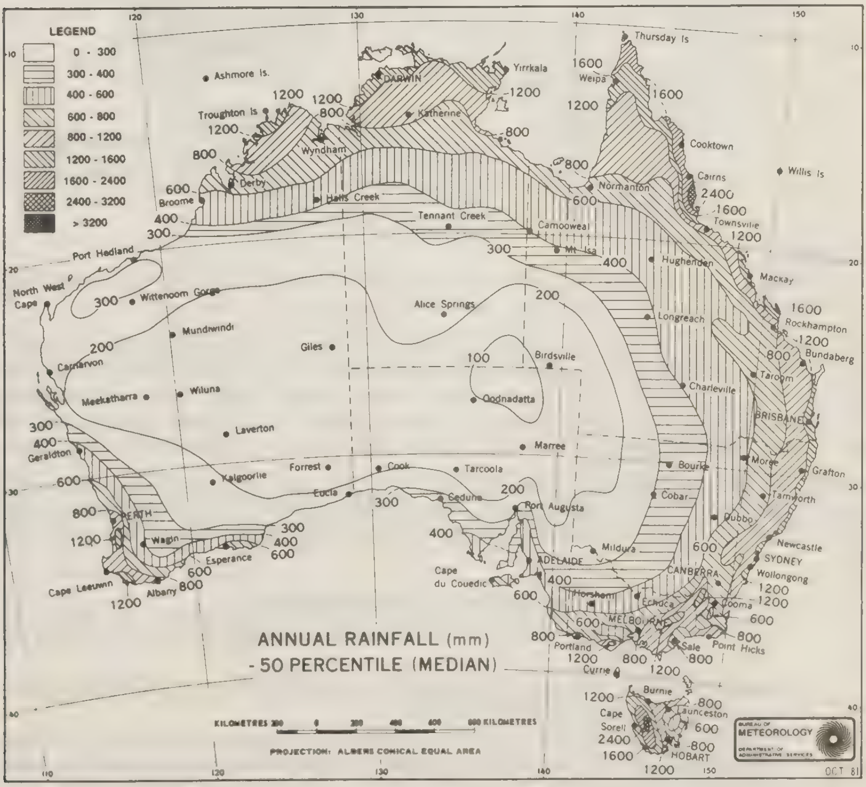
The Snowy Mountains area in New South Wales also has a particularly high rainfall. The highest median annual rainfall isohyet drawn for this region is 3,200 millimetres, and it is likely that small areas have a median annual rainfall approaching 4,000 millimetres on the western slopes above 2,000 metres elevation.

The following table shows the area distribution of median annual rainfall.

AREA DISTRIBUTION OF MEDIAN ANNUAL RAINFALL: AUSTRALIA
(per cent)

Median annual rainfall	*NSW (a)*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Aust.*
Under 200 mm	8.0	..	10.2	74.2	43.5	..	15.5	29.6
200 to 300 mm	20.3	6.3	13.0	13.5	29.6	..	35.6	22.9
300 to 400 mm	19.0	19.2	12.3	6.8	10.5	..	9.0	11.2
400 to 500 mm	12.4	11.8	13.5	3.2	4.3	..	6.6	7.6
500 to 600 mm	11.3	14.1	11.6	1.8	3.1	12.2	5.8	6.6
600 to 800 mm	15.1	24.5	20.5	0.5	4.6	18.2	11.6	10.7
800 to 1,200 mm	11.3	17.7	12.6	..	3.7	25.0	9.6	7.7
Above 1,200 mm	2.6	6.4	6.3	..	0.7	44.6	6.3	3.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes Australian Capital Territory.


LEGEND
0 - 300
300 - 400
400 - 600
600 - 800
800 - 1200
1200 - 1600
1600 - 2400
2400 - 3200
> 3200
ANNUAL RAINFALL (mm)
- 50 PERCENTILE (MEDIAN)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
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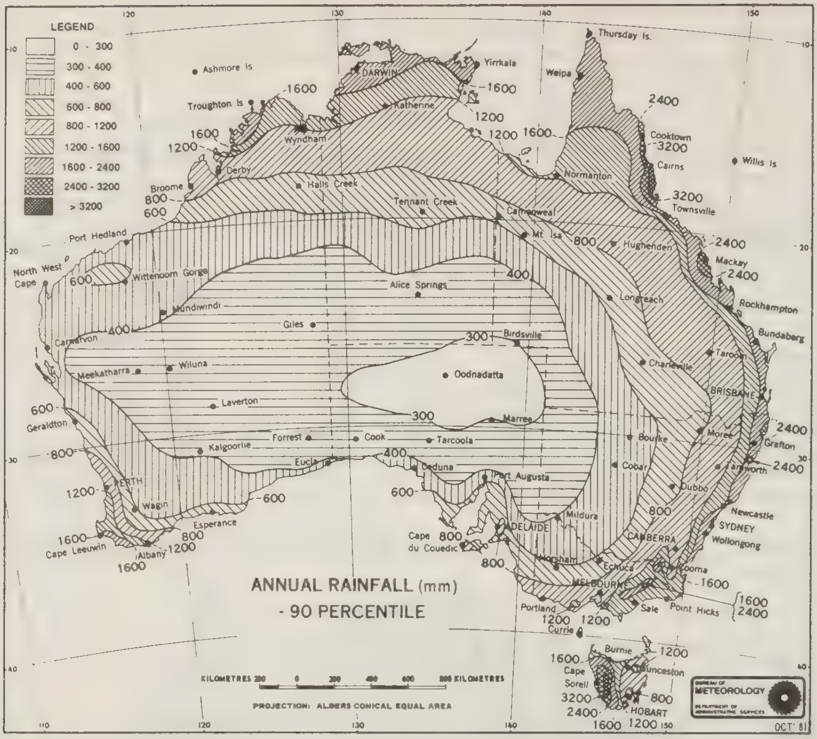
Thursday Is
Weipa
Cooktown
Cairns
Willis Is
Townsville
Mackay
Rockhampton
Bundaberg
Taroom
BRISBANE
Grafton
Moree
Tamworth
Newcastle
SYDNEY
Wollongong
Cooma
Point Hicks
Sale
MELBOURNE
CANBERRA
Dubbo
Cobar
Bourke
Charleville
Longreach
Hughenden
Normanton
Mt Isa
Camooweal
Tennant Creek
Alice Springs
Birdsville
Oodnadatta
Marree
Tarcoola
Port Augusta
Ceduna
Cook
Forrest
Eucla
ADELAIDE
Cape du Couedic
Mildura
Horsham
Echuca
Portland
Currie
Burnie
Launceston
HOBART
Cape Sorell
DARWIN
Katherine
Yirrkala
Wyndham
Halls Creek
Derby
Broome
Troughton Is
Ashmore Is.
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Carnarvon
Meekatharra
Wiluna
Giles
Laverton
Kalgoorlie
Geraldton
PERTH
Wagin
Esperance
Albany
Cape Leeuwin
110
120
130
140
150
10
20
30
40

FIGURE 2


LEGEND
0 - 300
300 - 400
400 - 600
600 - 800
800 - 1200
1200 - 1600
1600 - 2400
2400 - 3200
> 3200
ANNUAL RAINFALL (mm)
- 90 PERCENTILE
Ashmore Is
Troughton Is
DARWIN
Yirrkala
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Thursday Is.
Weipa
Cooktown
Cairns
Willis Is
Townsville
Normanton
Camooweal
Mt Isa
Hughenden
Mackay
Rockhampton
Bundaberg
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Longreach
Carnarvon
Birdsville
Oodnadatta
Charleville
Taroom
BRISBANE
Meekatharra
Wiluna
Laverton
Marree
Bourke
Moree
Grafton
Tamworth
Geraldton
Forrest
Cook
Tarcoola
Kalgoorlie
Eucla
Ceduna
Port Augusta
Cobar
Dubbo
PERTH
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
ADELAIDE
Horsham
Echuca
MELBOURNE
Cooma
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
300
400
600
800
1200
1600
2400
3200
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
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110
120
130
140
150
10
20
30
40

FIGURE 3

Seasonal

As outlined above, the rainfall pattern of Australia is strongly seasonal in character with a winter rainfall regime in the south and a summer regime in the north.

The dominance of rainfall over other climatic elements in determining the growth of specific plants in Australia has led to the development of a climatic classification based on two main parameters. The parameters are median annual rainfall and seasonal rainfall incidence. Figure 4 is a reduced version of the seasonal rainfall zones arising from this classification (*see* Bureau of Meteorology publication *Climatic Atlas of Australia*, 1988).

Evaporation and the concept of rainfall effectiveness are taken into account to some extent in this classification by assigning higher median annual rainfall limits to the summer zones than the corresponding uniform and winter zones. The main features of the seasonal rainfall are:

- marked wet summer and dry winter of northern Australia;
- wet summer and relatively dry winter of south-eastern Queensland and north-eastern New South Wales;
- uniform rainfall in south-eastern Australia—much of New South Wales, parts of eastern Victoria and southern Tasmania;
- marked wet winter and dry summer of south-west Western Australia and, to a lesser extent, much of the remainder of southern Australia directly influenced by westerly circulation;

- arid area comprising about half the continent extending from the north-west coast of Western Australia across the interior and reaching the south coast at the head of the Great Australian Bight.

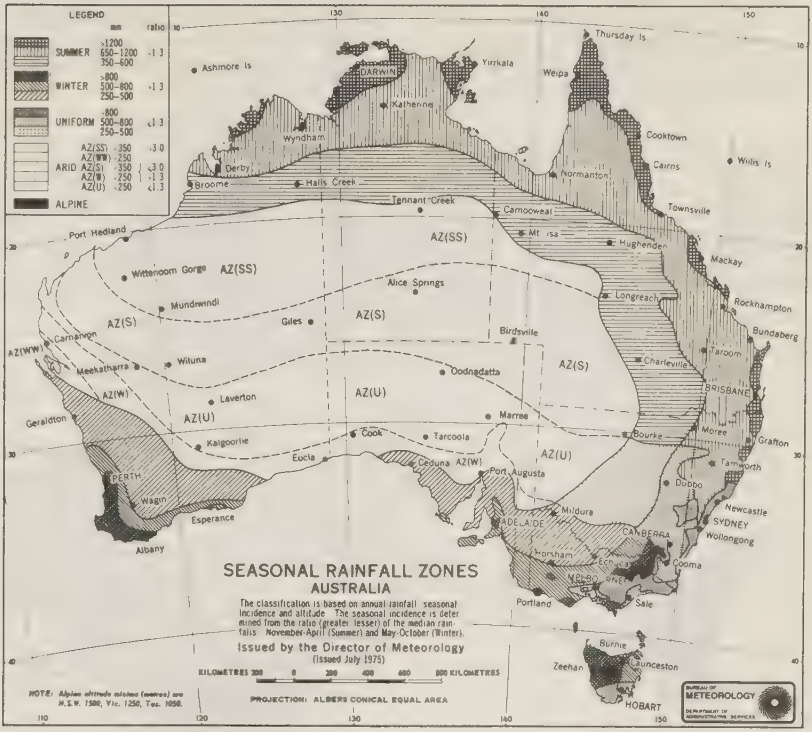

LEGEND
mm
ratio
SUMMER >1200 650–1200 350–600 >1 3
WINTER >800 500–800 250–500 >1 3
UNIFORM >800 500–800 250–500 <1 3
ARID AZ(SS) <350 >3 0
AZ(WW) <250
AZ(S) <350 <3 0
AZ(W) <250 >1 3
AZ(U) <250 <1.3
ALPINE
SEASONAL RAINFALL ZONES
AUSTRALIA
The classification is based on annual rainfall seasonal incidence and altitude The seasonal incidence is determined from the ratio (greater lesser) of the median rainfalls November-April (Summer) and May-October (Winter).
Issued by the Director of Meteorology
(Issued July 1975)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
NOTE: Alpine altitude minima (metres) are N.S.W. 1500, Vic. 1250, Tas. 1050.
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
110
120
130
140
150
10
20
30
40
Ashmore Is
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Cooktown
Cairns
Willis Is
Townsville
Camooweal
Mt Isa
Hughenden
Mackay
Port Hedland
Wittenoom Gorge
AZ(SS)
AZ(SS)
Alice Springs
Mundiwindi
AZ(S)
Giles
AZ(S)
Longreach
Rockhampton
Bundaberg
Birdsville
Carnarvon
AZ(WW)
Meekatharra
Wiluna
Oodnadatta
AZ(S)
Charleville
Taroom
BRISBANE
AZ(W)
Laverton
AZ(U)
AZ(U)
Geraldton
Marree
Moree
Kalgoorlie
Cook
Tarcoola
Bourke
Grafton
Eucla
Ceduna AZ(W)
AZ(U)
Tamworth
Port Augusta
Dubbo
PERTH
Wagin
Esperance
Albany
Mildura
ADELAIDE
Newcastle
SYDNEY
Wollongong
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART

FIGURE 4

The seasonal rainfall classification (*Climatic Atlas of Australia*, 1988) can be further reduced to provide a simplified distribution of seven climatic zones as shown in Figure 5.

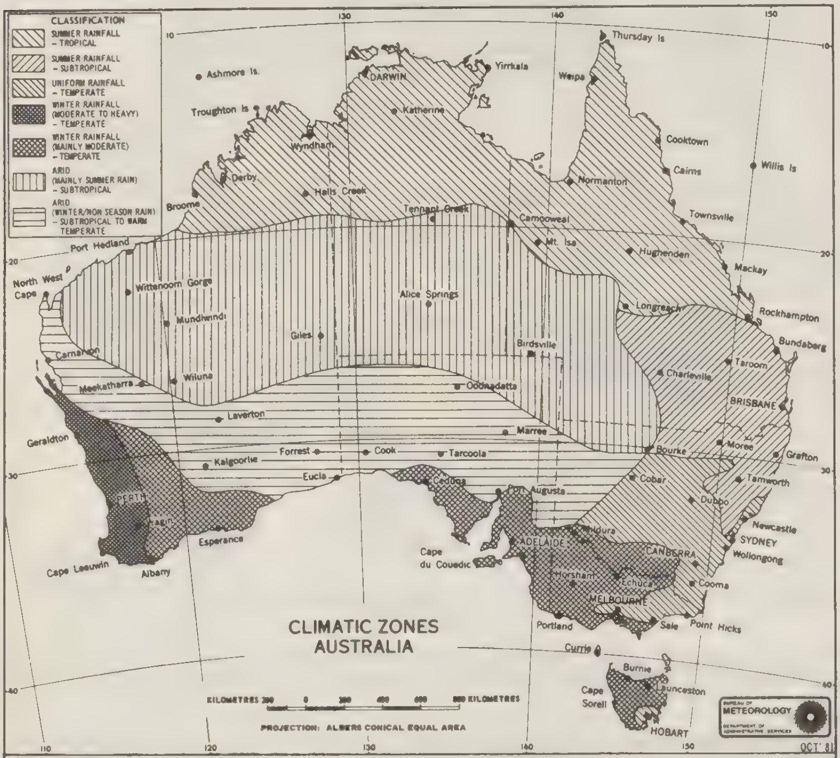
Variability

The adequate presentation of rainfall variability over an extensive geographical area is difficult. Probably the best measures are found in tables compiled for a number of individual stations in some of the Climatic Survey districts. These tables show the percentage chances of receiving specified amounts of rainfall in monthly, seasonal or annual time spans. Statistical indices of rainfall variation based on several techniques have been used to compile maps showing main features of the variability of annual rainfall over Australia.

One index for assessing the variability of annual rainfall is given by the ratio of the 90–10 percentile range to the 50 percentile (median value):

$$\text{i.e. Variability Index} = \left\{ \frac{90\text{–}10}{50} \right\} \quad \text{percentiles.}$$

Variability based on this relationship (Gaffney 1975 and Lee and Gaffney 1986) is shown in Figure 6. The region of high to extreme variability shown in Figure 6 lies mostly in the arid zones with summer rainfall incidence, AZ (S) defined on Figure 4. In the winter rainfall zones, the variability is generally low to moderate as exemplified by the south-west of Western Australia. In the tropics, random cyclone visitations cause extreme variations in rainfall from year to year: at Onslow (Western Australia), annual totals varied from 15 millimetres in 1912 to 1,085 millimetres in 1961 and, in the four consecutive years 1921 to 1924, the annual totals were 566, 69, 682 and 55 millimetres respectively. At Whim Creek (Western Australia), where 747 millimetres have been recorded in a single day, only 4 millimetres were received in the whole of 1924. Great variability can also occur in the heavy rainfall areas: at Tully (Queensland), the annual rainfalls have varied from 7,898 millimetres in 1950 to 2,486 millimetres in 1961.


CLASSIFICATION
SUMMER RAINFALL – TROPICAL
SUMMER RAINFALL – SUBTROPICAL
UNIFORM RAINFALL – TEMPERATE
WINTER RAINFALL (MODERATE TO HEAVY) – TEMPERATE
WINTER RAINFALL (MAINLY MODERATE) – TEMPERATE
ARID (MAINLY SUMMER RAIN) – SUBTROPICAL
ARID (WINTER/NON SEASON RAIN) – SUBTROPICAL TO WARM TEMPERATE
CLIMATIC ZONES AUSTRALIA
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Derby
Cairns
Willis Is
Halls Creek
Normanton
Broome
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt. Isa
Hughenden
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Wiluna
Meekatharra
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Narrogin
Esperance
Mildura
Newcastle
SYDNEY
ADELAIDE
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY
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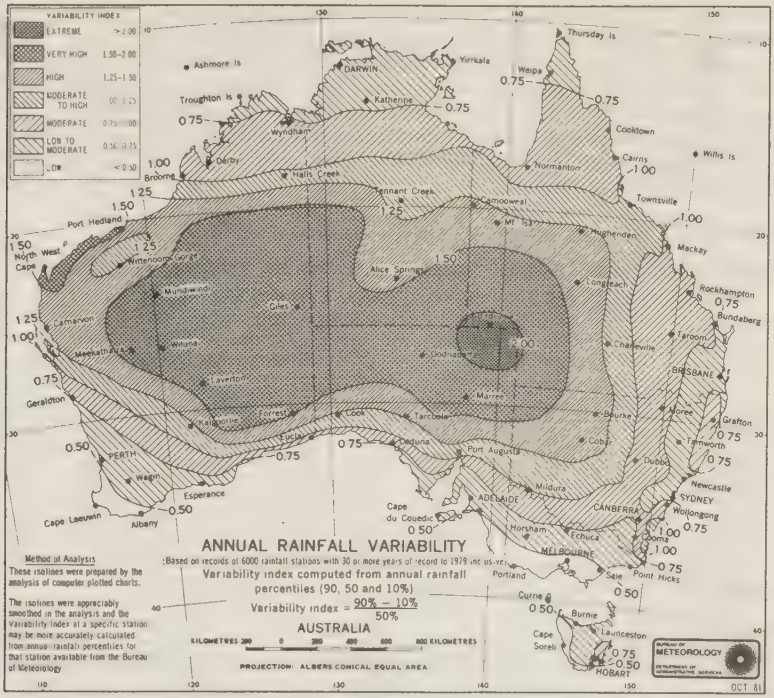
10
20
30
40
110
120
130
140
150
OCT' 81

CLASSIFICATION	SEASONAL CHARACTERISTICS	
	SUMMER	WINTER
Summer Rainfall – Tropical	Heavy periodic rains (heavier in coastal & highland areas) Hot generally Humid in coastal areas	Generally rainless Mild to warm Dry
Summer Rainfall – Subtropical	Heavy periodic rains (heavier in coastal & highland areas) Mainly hot Humid in highlands & coastal areas	Some significant rain Mild
Uniform Rainfall – Temperate	Mainly reliable rain Warm to hot	Mainly reliable rain Cool to cold
Winter Rainfall (moderate to heavy) – Temperate	Irregular rain, mostly light Warm to hot	Reliable rain (moderate to heavy) Cool to mild
Winter Rainfall (mainly moderate) – Temperate	Mostly light irregular rain Warm to hot	Reliable rain (mainly moderate) Cool to cold
Arid (mainly summer rain) – Subtropical	Variably rain Hot to extreme Very dry	Mainly irregular light rain Mild to warm Dry
Arid (winter or non–seasonal rain) – Warm Temperate to Subtropical	Very irregular rain Hot to extreme Very dry	Variable rain, mainly light Cool to mild Dry

[Reference - Climatic Atlas of Australia, Map set 5, Bureau of Meteorology 1975]

FIGURE 5


VARIABILITY INDEX
EXTREME >2.00
VERY HIGH 1.50–2.00
HIGH 1.25–1.50
MODERATE TO HIGH 1.00–1.25
MODERATE 0.75–1.00
LOW TO MODERATE 0.50–0.75
LOW <0.50
Ashmore Is
Troughton Is
DARWIN
Yirrkala
Thursday Is
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt Isa
Normanton
Cooktown
Cairns
Willis Is
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Giles
Birdsville
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Port Augusta
Cobar
Tamworth
Dubbo
PERTH
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART
0.50
0.75
1.00
1.25
1.50
2.00
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
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KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40

ANNUAL RAINFALL VARIABILITY

(Based on records of 6000 rainfall stations with 30 or more years of record to 1979 inclusive)

Variability index computed from annual rainfall percentiles (90, 50 and 10%)

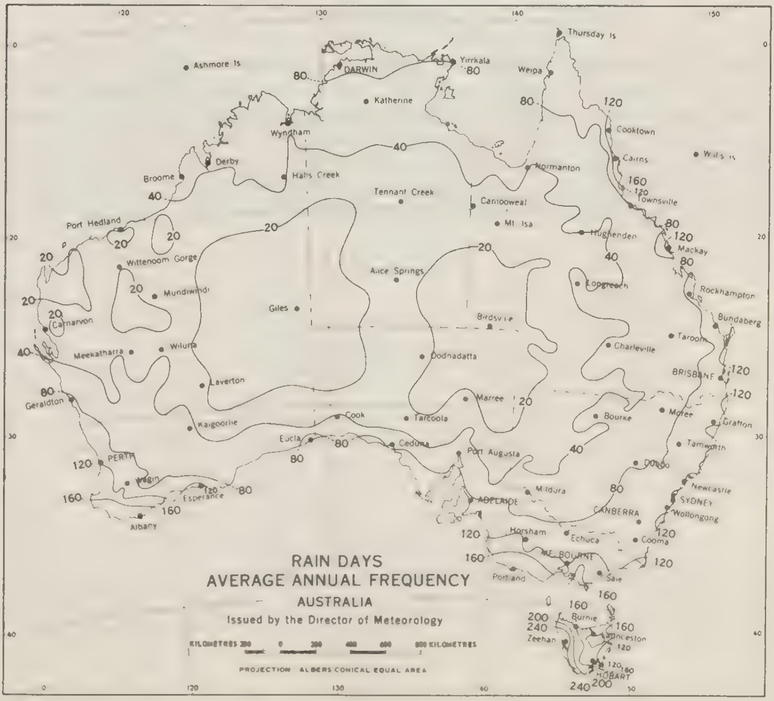
$$\text{Variability index} = \frac{90\% - 10\%}{50\%}$$

AUSTRALIA

Method of Analysis

These isolines were prepared by the analysis of computer plotted charts.

The isolines were appreciably smoothed in the analysis and the Variability index at a specific station may be more accurately calculated from annual rainfall percentiles for that station available from the Bureau of Meteorology.


Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Derby
Broome
Halls Creek
Cairns
Willis Is
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Mundiwindi
Longreach
Rockhampton
Giles
Birdsville
Carnarvon
Bundaberg
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Bourke
Moree
Grafton
Kalgoorlie
Cook
Tarcoola
Eucla
Ceduna
Tamworth
Port Augusta
PERTH
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Albany
ADELAIDE
CANBERRA
Wollongong
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
20
40
80
120
160
200
240
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
120
130
140
150
10
20
30
40

RAIN DAYS
AVERAGE ANNUAL FREQUENCY
AUSTRALIA
Issued by the Director of Meteorology

FIGURES 6 AND 7

Variability of rainfall in eastern Australia is strongly linked to the Southern Oscillation, a seesawing of atmospheric pressure between the central/eastern Pacific and the western Indian oceans. The strength of the Southern Oscillation is determined by the Southern Oscillation Index (SOI) which is a measure of the difference in sea level atmospheric pressure between Tahiti in the central Pacific and Darwin, northern Australia. High SOI values relate to above average rainfall over eastern Australia, and low SOI values relate to below average rainfall over the area. The table below illustrates the significance of this SOI/rainfall relationship.

Southern Oscillation Index – eastern Australian rainfall relationship

AVERAGE AREA OF EASTERN AUSTRALIA *(a)* WITH ANNUAL RAINFALL IN SPECIFIED RANGES BY SOI RANGE

SOI range	*Number of years (1933–87)*	*Average SOI*	*Percentage of area within percentile limits*		
			≤30 percentile	*31–70 percentile*	*>70 percentile*
<–10	6	–13.5	63.1	30.5	6.4
–5 to –10	8	–6.5	33.9	47.3	18.8
0 to –5	11	–1.7	28.5	50.7	20.8
+5 to 0	19	1.8	26.2	42.8	31.0
+10 to +5	5	5.9	9.5	53.7	36.8
>+10	6	11.9	3.0	25.6	71.4

(a) Queensland, New South Wales, Victoria and Tasmania.

Rainday frequency

The average number of days per year with rainfall of 0.2 millimetres or more is shown in Figure 7.

The frequency of raindays exceeds 150 per year in Tasmania (with a maximum of over 200 in western Tasmania), southern Victoria, parts of the north Queensland coast and in the extreme south-west of Western Australia. Over most of the continent the frequency is less than 50 raindays per year. The area of low rainfall with high variability, extending from the north-west coast of Western Australia through the interior of the continent, has less than 25 raindays per year. In the high rainfall areas of northern Australia the number of raindays is about 80 per year, but heavier falls occur in this region than in southern regions.

Intensity

The highest rainfall intensities for some localities are shown in the table below.

HIGHEST RAINFALL INTENSITIES IN SPECIFIED PERIODS
(millimetres)
(*Source:* Pluviograph records in Bureau of Meteorology archives)

			Period in hours				
Station	*Period of record*	*Years of complete records*	*1*	*3*	*6*	*12*	*24*
			mm	mm	mm	mm	mm
Adelaide	1897–1979	79	69	133	141	141	141
Alice Springs	1951–1986	36	75	87	108	133	150
Brisbane	1911–1987	77	88	142	182	266	327
Broome	1948–1983	36	112	157	185	313	353
Canberra	1938–1982	37	40	57	67	76	120
Carnarvon	1956–1982	27	44	63	83	95	108
Charleville	1953–1987	35	42	66	75	111	142
Cloncurry	1953–1981	23	59	118	164	173	204
Darwin (Airport)	1953–1987	35	89	138	214	260	291
Esperance	1963–1979	15	23	45	62	68	79
Hobart	1911–1985	75	28	56	87	117	168
Meekatharra	1953–1982	30	33	67	81	99	112
Melbourne	1873–1986	100	76	83	86	97	130
Mildura	1953–1986	34	49	60	65	66	91
Perth	1946–1983	37	31	37	48	64	80
Sydney	1913–1987	71	118	194	200	244	340
Townsville	1953–1987	34	88	158	235	296	319

These figures represent intensities over only small areas around the recording points because turbulence and exposure characteristics of the measuring gauge may vary over a distance of a few metres. The highest 24-hour (9 a.m. to 9 a.m.) falls are listed below. Most of the very high 24-hour falls (above 700 millimetres) have occurred in the coastal strip of Queensland, where a tropical cyclone moving close to mountainous terrain provides ideal conditions for spectacular falls.

HIGHEST DAILY RAINFALLS
(All years to date)

State	*Station*	*Date*	*Amount*
			mm
New South Wales	Dorrigo (Myrtle Street)	21.2.1954	809
	Lowanna (Yalamurra)	22.4.1974	662
Victoria	Tanybryn	22.3.1983	375
	Nowa Nowa (Wairawa)	11.3.1906	275
Queensland*(a)*	Beerwah (Crohamhurst)	3.2.1893	907
	Finch Hatton PO	18.2.1958	878
South Australia	Stansbury	18.2.1946	222
	Wirrabara Forest Reserve	4.6.1978	222
Western Australia	Roebourne (Whim Creek)	3.4.1898	747
	Broome (Kilto)	4.12.1970	635
Tasmania	Cullenswood	22.7.1974	352
	Mathinna	5.4.1929	336
Northern Territory	Roper Valley Station	15.4.1963	544
	Angurugu (Groote Eylandt)	28.3.1953	513

(a) Bellenden Ker (Top Station) has recorded a 24 hour total of 960 mm from 3 p.m. to 3 p.m. on the 3rd and 4th January 1979. The standard daily rainfall period is 9 a.m. to 9 a.m.

The highest annual rainfalls are listed by State in the following table.

HIGHEST ANNUAL RAINFALLS
(All years to date)

State	*Station*	*Year*	*Amount*
			mm
New South Wales	Tallowwood Point	1950	4,540
Victoria	Falls Creek SEC	1956	3,738
Queensland	Bellenden Ker (Top Station)	1979	11,251
South Australia	Aldgate State School	1917	1,852
Western Australia	Armadale (Jarrahdale PO)	1917	2,169
Tasmania	Lake Margaret	1948	4,504
Northern Territory	Elizabeth Downs	1973	2,966

Thunderstorms and hail

A thunderday at a given location is a calendar day on which thunder is heard at least once. Figure 8 shows isopleths (isobronts) of the average annual number of thunderdays which vary from 74 per year near Darwin to less than 10 per year over parts of the southern regions. Convectional processes during the summer wet season cause high thunderstorm incidence in northern Australia. The generally high incidence of thunderdays (40–60 annually) over the eastern upland areas is caused mainly by orographic uplift of moist air streams.

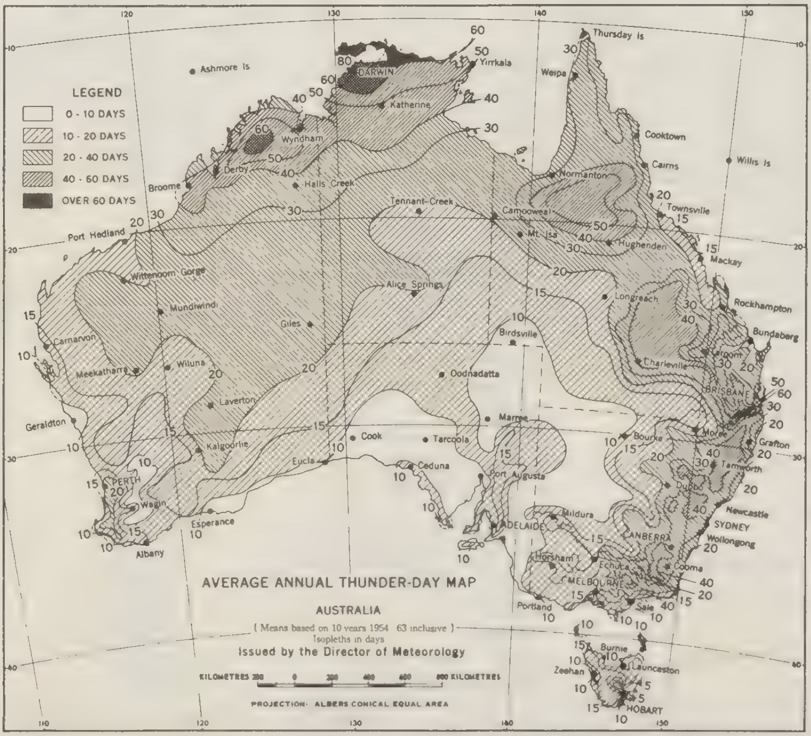

LEGEND
☐ 0 - 10 DAYS
▨ 10 - 20 DAYS
▨ 20 - 40 DAYS
▨ 40 - 60 DAYS
■ OVER 60 DAYS
AVERAGE ANNUAL THUNDER-DAY MAP
AUSTRALIA
(Means based on 10 years 1954 63 inclusive)
Isopleths in days
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
DARWIN
Katherine
Yirrkala
Thursday Is
Weipa
Cooktown
Cairns
Willis Is
Townsville
Mackay
Rockhampton
Bundaberg
BRISBANE
Moree
Grafton
Tamworth
Dubbo
Newcastle
SYDNEY
Wollongong
CANBERRA
Cooma
MELBOURNE
Sale
Echuca
Horsham
Portland
Mildura
ADELAIDE
Port Augusta
Marree
Birdsville
Oodnadatta
Tarcoola
Ceduna
Cook
Eucla
Alice Springs
Tennant Creek
Camooweal
Mt Isa
Normanton
Hughenden
Longreach
Charleville
Bourke
Burnie
Launceston
Zeehan
HOBART
Ashmore Is
Wyndham
Derby
Broome
Halls Creek
Port Hedland
Wittenoom Gorge
Mundiwindi
Giles
Carnarvon
Meekatharra
Wiluna
Laverton
Geraldton
Kalgoorlie
PERTH
Wagin
Esperance
Albany
110
120
130
140
150
10
20
30
40

FIGURE 8

Hail, mostly of small size (less than 10 millimetres diameter), occurs with winter–spring cold frontal activity in southern Australia. Summer thunderstorms, particularly over the uplands of eastern Australia, sometimes produce large hail (greater than 10 millimetres diameter). Large hail capable of piercing light gauge galvanised iron occurs at irregular intervals and sometimes causes widespread damage.

Snow

Generally, snow covers much of the Australian Alps above 1,500 metres for varying periods from late autumn to early spring. Similarly, in Tasmania the mountains are covered fairly frequently above 1,000 metres in these seasons. The area, depth and duration are highly variable. In some years, snow falls in the altitude range of 500–1,000 metres. Snowfalls at levels below 500 metres are occasionally experienced in southern Australia, particularly in the foothill areas of Tasmania and Victoria, but falls are usually light and short lived. In some seasons, parts of the eastern uplands above 1,000 metres from Victoria to south-eastern Queensland have been covered with snow for several weeks. In ravines around Mount Kosciusko (2,228 metres) small areas of snow may persist through summer but there are no permanent snowfields.

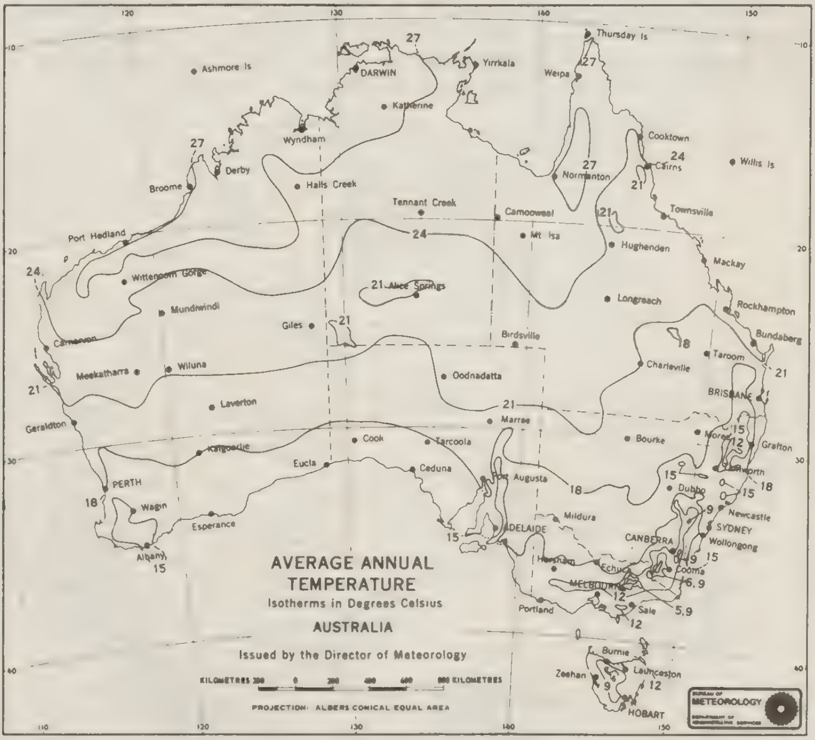

AVERAGE ANNUAL
TEMPERATURE
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY
120
130
140
150
110
10
20
30
40
Ashmore Is
DARWIN
Katherine
Yirrkala
Thursday Is
Weipa
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt Isa
Normanton
Cooktown
Cairns
Willis Is
Townsville
Hughenden
Mackay
Port Hedland
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Giles
Birdsville
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Port Augusta
Tamworth
Dubbo
PERTH
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
27
24
21
18
15
12
9
6
5,9
6,9

FIGURE 9

Temperature

Average temperatures

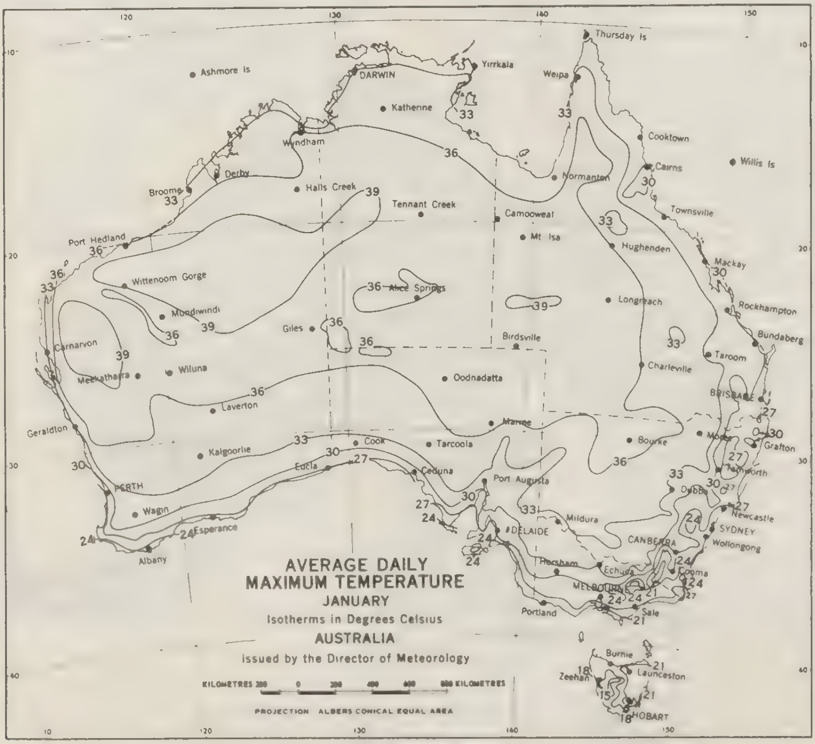
Average annual air temperatures, as shown in Figure 9, range from 28°C along the Kimberley coast in the extreme north of Western Australia to 4°C in the alpine areas of south-eastern Australia. Although annual temperature may be used for broad comparisons, monthly temperatures are required for detailed analyses.

July is the month with the lowest average temperature in all parts of the continent. The months with the highest average temperature are January or February in the south and December in the north (except in the extreme north and north-west where it is November). The slightly lower temperatures of mid summer in the north are due to the increase in cloud during the wet season.

Average monthly maxima

Maps of average maximum and minimum temperatures for the months of January and July are shown in Figures 10 to 13 inclusive.

In January, average maximum temperatures exceed 35°C over a vast area of the interior and exceed 40°C over appreciable areas of the north-west. The consistently hottest part of Australia in terms of summer maxima is around Marble Bar in Western Australia (150 kilometres south-east of Port Hedland) where the average is 41°C and daily maxima during summer may exceed 40°C consecutively for several weeks at a time.


AVERAGE DAILY
MAXIMUM TEMPERATURE
JANUARY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Cooktown
Wyndham
Willis Is
Cairns
Normanton
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Wiluna
Meekatharra
Charleville
Oodnadatta
Laverton
BRISBANE
Geraldton
Marree
Moree
Grafton
Kalgoorlie
Cook
Tarcoola
Bourke
Eucla
Tamworth
Ceduna
Port Augusta
Dubbo
PERTH
Newcastle
Wagin
Mildura
SYDNEY
Esperance
ADELAIDE
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
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120
130
140
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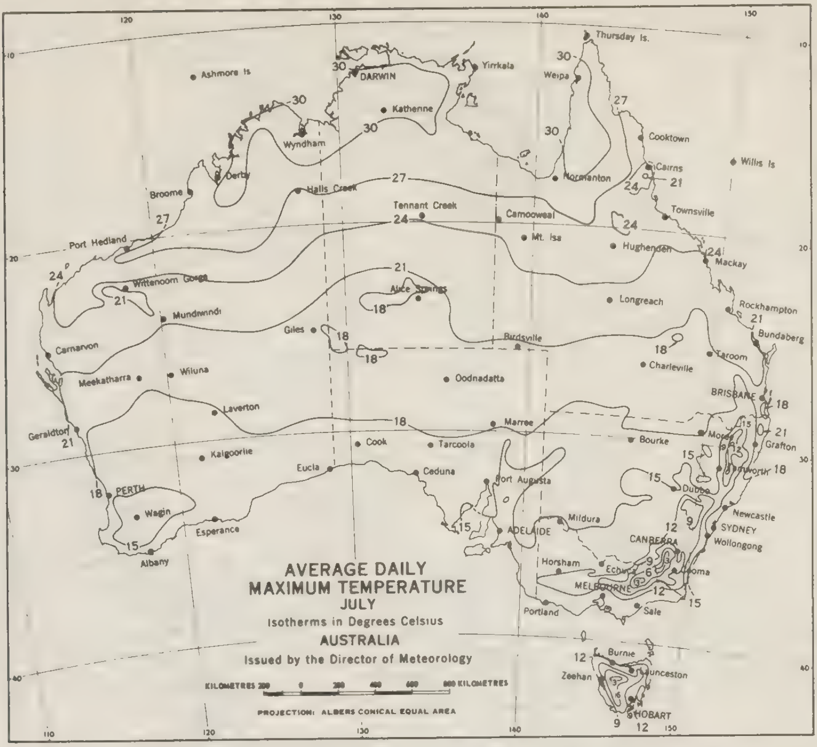
39
36
33
30
27
24
21
18
15

FIGURE 10


AVERAGE DAILY
MAXIMUM TEMPERATURE
JULY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology

KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Willis Is
Derby
Broome
Halls Creek
Normanton
Cairns
Townsville
Tennant Creek
Camooweal
Mt. Isa
Hughenden
Mackay
Port Hedland
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Bundaberg
Carnarvon
Giles
Birdsville
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Moree
Geraldton
Bourke
Grafton
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Tarcoola
Kalgoorlie
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Newcastle
Wagin
Mildura
SYDNEY
Esperance
ADELAIDE
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
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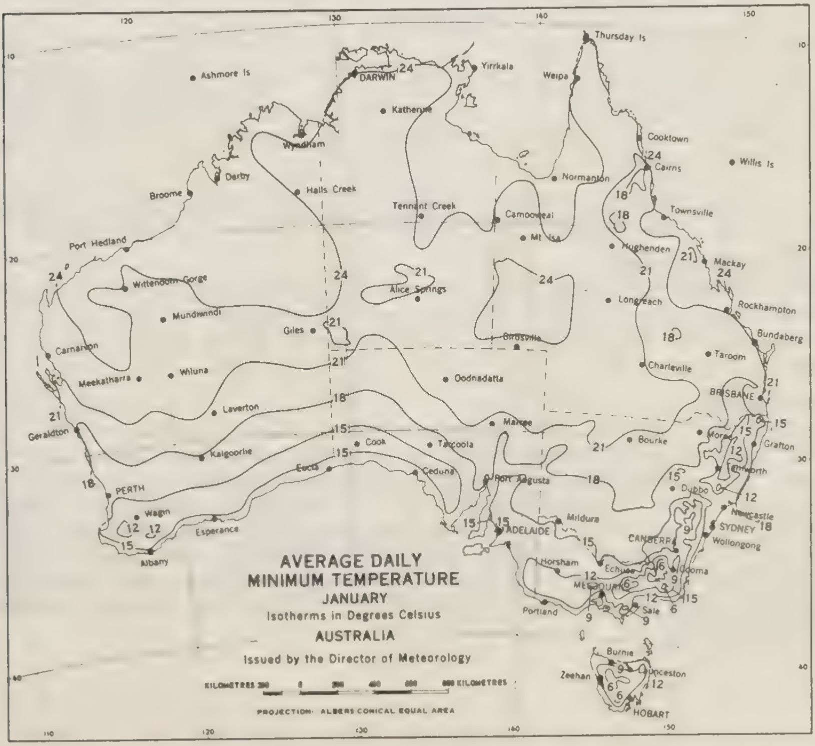
AVERAGE DAILY
MINIMUM TEMPERATURE
JANUARY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology

KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
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Wyndham
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Willis Is
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Halls Creek
Normanton
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Tennant Creek
Camooweal
Townsville
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Mackay
Port Hedland
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Taroom
Carnarvon
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Moree
Geraldton
Bourke
Grafton
Kalgoorlie
Cook
Tarcoola
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Newcastle
Wagin
Mildura
SYDNEY
Esperance
ADELAIDE
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
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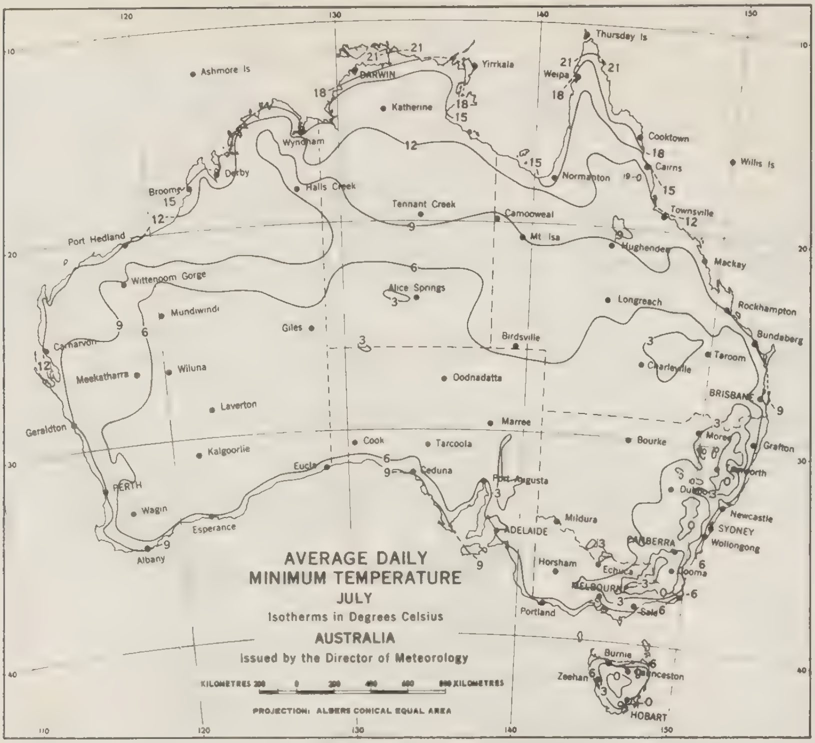
FIGURES 11 AND 12


AVERAGE DAILY
MINIMUM TEMPERATURE
JULY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is
Darwin
Yirrkala
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Port Hedland
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Carnarvon
Meekatharra
Wiluna
Laverton
Geraldton
Kalgoorlie
Cook
Tarcoola
Eucla
Ceduna
Perth
Wagin
Esperance
Albany
Thursday Is
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Camooweal
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Rockhampton
Bundaberg
Birdsville
Taroom
Charleville
Oodnadatta
Brisbane
Marree
Bourke
Moree
Grafton
Port Augusta
Tamworth
Dubbo
Mildura
Adelaide
Newcastle
Sydney
Wollongong
Canberra
Horsham
Echuca
Cooma
Melbourne
Sale
Portland
Burnie
Launceston
Zeehan
Hobart
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6
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-3
-6
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40

FIGURE 13

The marked gradients of isotherms of maximum temperature in summer in coastal areas, particularly along the south and west coasts, are due to the penetration inland of fresh sea-breezes initiated by the sharp temperature discontinuties between the land and sea surfaces. There are also gradients of a complex nature in south-east coastal areas caused primarily by the uplands.

In July, a more regular latitudinal distribution of average maxima is evident. Maxima range from 30°C near the north coast to 5°C in the alpine areas of the south-east.

Average monthly minima

In January, average minima range from 27°C on the north-west coast to 5°C in the alpine areas of the south-east. In July, average minima fall below 5°C in areas south of the tropics (away from the coasts). Alpine areas record the lowest temperatures; the July average is as low as –5°C.

Extreme maxima

Temperatures have exceeded 45°C at nearly all inland stations more than 150 kilometres from the coast and at many places on the north-west and south coasts. Temperatures have exceeded 50°C at some inland stations and at a few near the coast. It is noteworthy that Eucla on the south coast has recorded 50.7°C, the highest temperature in Western Australia. This is due to the long trajectory over land of hot north-west winds from the Marble Bar area. Although the highest temperature recorded in Australia was 53.1°C at Cloncurry (Queensland), more stations have exceeded 50°C in western New South Wales than in other areas due to the long land trajectory of hot winds from the north-west interior of the continent.

Extreme maximum temperatures recorded at selected stations, including the highest recorded in each State, are shown in the following table.

EXTREME MAXIMUM TEMPERATURES
(All years to date)

Station	*°C*	*Date*	*Station*	*°C*	*Date*
New South Wales—			Western Australia—		
Bourke	52.8	17.1.1877	Eucla	50.7	22.1.1906
Wilcannia	50.0	11.1.1939	Mundrabilla	49.8	3.1.1979
Menindee	49.7	10.1.1939	Forrest	49.8	13.1.1979
Victoria—			Madura	49.4	7.1.1971
Mildura	50.8	6.1.1906	Tasmania—		
Swan Hill	49.4	18.1.1906	Bushy Park	40.8	26.12.1945
Queensland—			Hobart	40.8	4.1.1976
Cloncurry	53.1	16.1.1889	Northern Territory—		
Winton	50.7	14.12.1888	Finke	48.3	2.1.1960
Birdsville	49.5	24.12.1972	Jervois	47.5	3.1.1978
South Australia—			Australian Capital Territory—		
Oodnadatta	50.7	2.1.1960	Canberra (Acton)	42.8	11.1.1939
Marree	49.4	2.1.1960			
Whyalla	49.4	2.1.1960			

Extreme minima

The lowest temperatures in Australia have been recorded in the Snowy Mountains, where Charlotte Pass (elevation 1,760 metres) has recorded –22.2°C on 14 July 1945 and 22 August 1947. Temperatures have fallen below –5°C at most inland places south of the tropics and at some places within a few kilometres of southern coasts. At Eyre, on the south coast of Western Australia, a minimum temperature of –4.3°C has been recorded, and at Swansea, on the east coast of Tasmania, the temperature has fallen as low as –5.0°C.

In the tropics, extreme minima below 0°C have been recorded at many places away from the coasts—as far north as Herberton, Queensland (–5.0°C). Even very close to the tropical coastline, temperatures have fallen to 0°C, a low recording being –0.8°C for Mackay.

The next table shows extreme minimum temperatures recorded at specified stations, including the lowest recorded in each State.

EXTREME MINIMUM TEMPERATURES
(All years to date)

Station	*°C*	*Date*	*Station*	*°C*	*Date*
New South Wales—			Western Australia—		
Charlotte Pass	–22.2	14.7.1945 22.8.1947	Booylgoo	–6.7	12.7.1969
			Wandering	–5.7	1.6.1964
Kiandra	–20.6	2.8.1929	Tasmania—		
Perisher Valley	–19.5	23.7.1979	Shannon	–13.0	30.6.1983
Victoria—			Butlers Gorge	–13.0	30.6.1983
Mount Hotham	–12.8	30.7.1931	Tarraleah	–13.0	30.6.1983
Omeo	–11.7	15.6.1965	Northern Territory—		
Hotham Heights	–11.1	15.8.1968	Alice Springs	–7.5	12.7.1976
Queensland—			Tempe Downs	–6.9	24.7.1971
Stanthorpe	–11.0	4.7.1895	Australian Capital Territory—		
Warwick	–10.6	12.7.1965	Gudgenby	–14.6	11.7.1971
Mitchell	–9.4	15.8.1979			
South Australia—					
Yongala	–8.2	20.7.1976			
Yunta	–7.7	16.7.1976			
Ernabella	–7.6	19.7.1983			

Heat waves

Periods with a number of successive days having a temperature higher than 40°C are relatively common in summer over parts of Australia. With the exception of the north-west coast of Western Australia, however, most coastal areas rarely experience more than three successive days of such conditions. The frequency increases inland, and periods of up to ten successive days have been recorded at many inland stations. This figure increases in western Queensland and north-west Western Australia to more than twenty days in places. The central part of the Northern Territory and the Marble Bar–Nullagine area of Western Australia have recorded the most prolonged heat waves. Marble Bar is the only station in the world where temperatures of more than 37.8°C (100°F) have been recorded on as many as 161 consecutive days (30 October 1923 to 7 April 1924).

Heat waves are experienced in the coastal areas from time to time. During 11–14 January 1939, for example, a severe heat wave affected south-eastern Australia: Adelaide had a record of 47.6°C on the 12th, Melbourne a record of 45.6°C on the 13th and Sydney a record of 45.3°C on the 14th.

The Kimberley district of Western Australia is the consistently hottest part of Australia in terms of annual average maximum temperature. Wyndham, for example, has an annual average maximum of 35.6°C.

Frost

Frost can cause serious losses of agricultural crops, and numerous climatic studies have been made in Australia relating to specific crops cultivated in local areas.

Under calm conditions, overnight temperatures at ground level are often as much as 5°C lower than those measured in the instrument screen (base height 1.1 metre) and differences of 10°C have been recorded. Only a small number of stations measure minima at ground level, the lowest recordings being −15.1°C at Canberra and −11.0°C at Stanthorpe (Queensland). Lower readings may be recorded in alpine areas.

Frost frequency depends on location and orography, and even on minor variations in the contour of the land. The parts of Australia which are most subject to frost are the eastern uplands from north-eastern Victoria to the western Darling Downs in southern Queensland. Most stations in this region experience more than ten nights a month with readings of 0°C (or under) for three to five months of the year. On Tasmania's Central Plateau similar conditions occur for three to six months of the year. Frosts may occur within a few miles of the coasts except in the Northern Territory and most of the north Queensland coasts.

Regions in which frosts may occur at any time of the year comprise most of Tasmania, large areas of the tablelands of New South Wales, much of inland Victoria, particularly the north-east, and a small part of the extreme south-west of Western Australia. Over most of the interior of the continent, and on the highlands of Queensland as far north as the Atherton Plateau, frosts commence in April and end in September. Minimum temperatures below 0°C are experienced in most of the subtropical interior in June and July.

The length of the frost period for the year is taken as the number of days between the first and last recording of an air temperature of 2°C or less. The median duration of the frost period in days per year is shown in Figure 14.

The median frost period over the continent varies from over 200 days per year in the south-eastern uplands areas south of the Hunter Valley, to zero days in northern Australia. In the southern regions of the continent, the annual frost period generally decreases from about 100 days inland to below 50 days towards the coast. However, there are appreciable spatial variations depending mainly on local orography. In Tasmania the frost period exceeds 300 days on the uplands and decreases to 100 days near the coast.

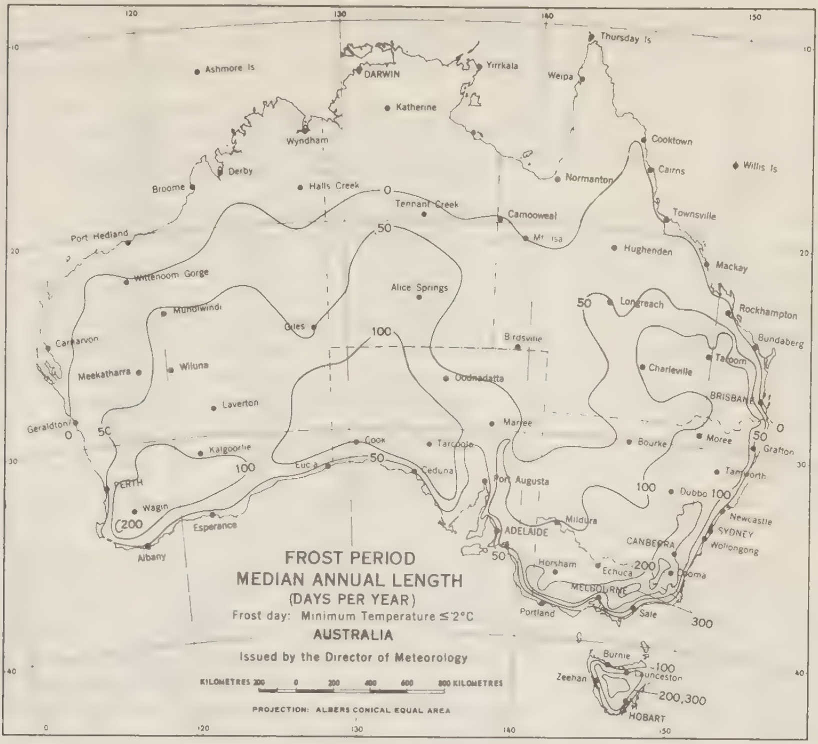

FROST PERIOD
MEDIAN ANNUAL LENGTH
(DAYS PER YEAR)
Frost day: Minimum Temperature ≤ 2°C
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
120
130
140
150
10
20
30
40
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Moree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Grafton
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
0
50
100
200
300
200,300

FIGURE 14

More strictly, a frost is taken as corresponding to a minimum screen temperature of 2.2°C or less. A light frost is said to occur when the screen minimum temperature is greater than 0°C but less than or equal to 2.2°C. A heavy frost corresponds to a minimum temperature of 0°C or less.

The table below includes the average annual frequency of minima of 2.2°C or less for a wide selection of stations, particularly those prone to frosts. These data show the high spatial variability of frost frequency across Australia. The south-eastern alpine areas, as represented by Kiandra (elevation 1,400 metres), have a frequency exceeding 200. At Kalgoorlie the average annual frequency is 20.4 days, at Alice Springs 32.7, Charleville 32.3, Canberra 101.1 and Essendon Airport (Melbourne) 14.2.

FROST FREQUENCY

Station	*Period of record*	*Altitude (metres)*	*Average number of frosty nights ≤2.2°C*	*Average number of heavy frosts ≤0°C*
Adelaide Airport	1956–85	6.0	6.2	0.9
Alice Springs	1942–85	545.0	32.7	11.9
Ballan	1957–68	442.0	62.3	20.5
Birdsville	1957–83	43.0	4.7	0.4
Brisbane Airport	1950–85	6.0	0.2	0.0
Canberra Airport	1940–85	571.0	101.1	63.6
Ceduna Airport	1943–85	24.0	18.4	4.2
Charleville Airport	1943–85	306.0	32.3	12.9
Essendon Airport (Melbourne)	1940–70	86.0	14.2	2.6
Hobart	1949–85	55.2	17.1	1.7
Kalgoorlie Airport	1943–84	360.0	20.4	4.6
Kiandra	1957–68	1,395.4	228.3	176.7
Mount Gambier Airport	1943–85	63.0	26.0	6.9
Perth Airport	1945–86	20.0	2.8	0.1
Walgett	1957–84	131.0	23.3	5.7

Note: ≤ denotes less than or equal to.

The regions of mainland Australia most prone to heavy frosts are the eastern uplands and adjacent areas extending from Victoria through New South Wales to south-eastern Queensland. Stations above 1,000 metres in altitude in the southern parts of these uplands have more than 100 heavy frosts annually, and in the upland areas below 1,000 metres the annual frequency ranges from 100 to about 20. Over the remainder of southern Queensland, New South Wales and Victoria, although there are great spatial variations, the average annual frequency of heavy frosts typically ranges from about 20 inland to 10 towards the coast.

In Tasmania, uplands above 1,000 metres have more than 100 heavy frosts annually and, in neighbouring areas, the frequency is about 100 decreasing to 20 towards the coasts. Even some coastal stations have a relatively high frequency (Swansea, for example, has 15.7).

The southern half of Western Australia, the whole of South Australia, and the Alice Springs district of the Northern Territory experience heavy frosts. Differences in annual frequencies between places are great but in general the frequency is about 10 inland decreasing towards the coasts. Some places average more than 20 heavy frosts annually, notably Wandering, Western Australia (21.5) and Yongala, South Australia (41.8). At Alice Springs the annual average frequency is 11.9.

Humidity

Australia is a dry continent in terms of the water vapour content or humidity of the air and this element may be compared with evaporation to which it is related. Humidity is measured at Bureau of Meteorology observational stations by a pair of dry and wet-bulb thermometers mounted in a standard instrument screen. These measurements enable moisture content to be expressed by a number of parameters, the most commonly known being relative humidity.

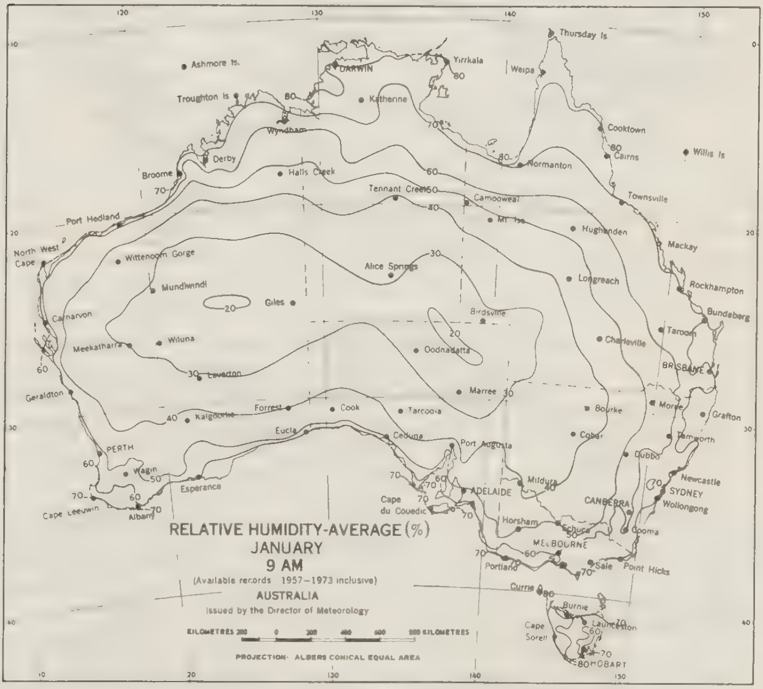
Relative humidity at a given temperature is the ratio (expressed as a percentage) of actual vapour pressure to the saturated vapour pressure at that temperature. As a single measure of human discomfort, relative humidity is of limited value because it must be related to the temperature at the time.

Since the temperature at 9 a.m. approximates the mean temperature for the day (24 hours), the relative humidity at 9 a.m. may be taken as an estimate of the mean relative humidity for the day. Relative humidity at 3 p.m. occurs around the warmest part of the day on the average and is representative of the lowest daily values. Relative humidity on average is at a maximum in the early morning when air temperature is minimal.

Relative humidity isopleths for January and July at 9 a.m. and 3 p.m. shown in Figures 15–18 are extracted from the *Climatic Atlas of Australia, 1988.*

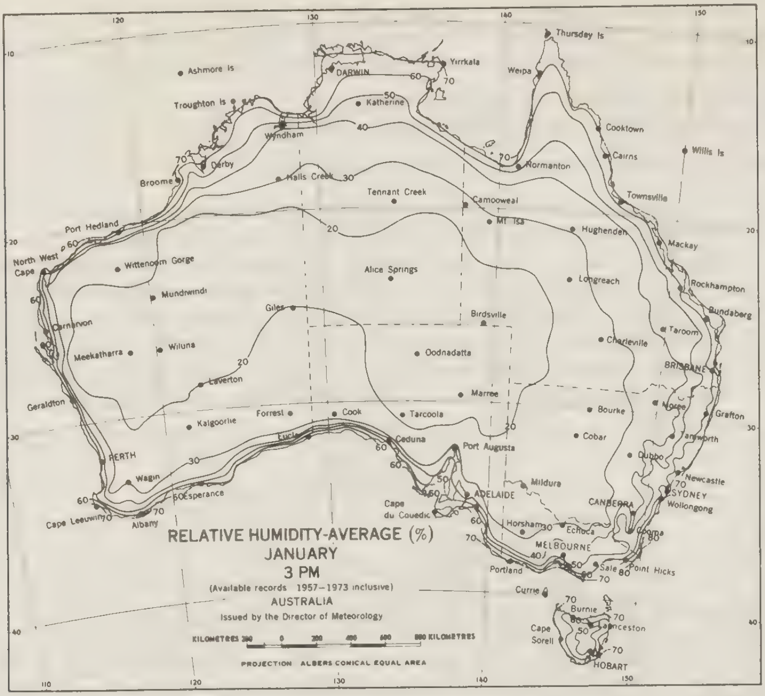
The main features of the relative humidity pattern are:

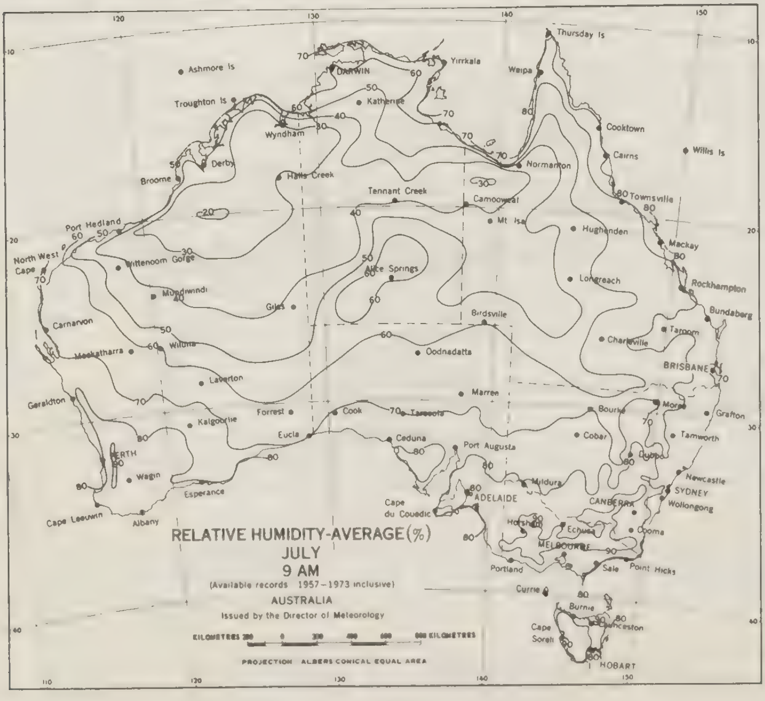
- over the interior of the continent there is a marked dryness during most of the year, notably towards the northern coast in the dry season (May–October);
- the coastal fringes are comparatively moist, although this is less evident along the north-west coast of Western Australia where continental effects are marked;
- in northern Australia, the highest values occur during the summer wet season (December–February) and the lowest during the winter dry season(June–August);
- in most of southern Australia the highest values are experienced in the winter rainy season (June–August) and the lowest in summer (December–February)


RELATIVE HUMIDITY-AVERAGE (%)
JANUARY
9 AM
(Available records 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology

KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION · ALBERS CONICAL EQUAL AREA
120
130
140
150
10
20
30
40
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
80
Weipa
Troughton Is
80
Katherine
70
Wyndham
Cooktown
80
Cairns
Willis Is
Derby
80
Normanton
Broome
Halls Creek
60
70
Tennant Creek
60
Camooweal
Townsville
Port Hedland
40
Mt Isa
Hughenden
Mackay
North West Cape
Wittenoom Gorge
30
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
20
Birdsville
Bundaberg
Carnarvon
20
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
60
BRISBANE
30
Laverton
Geraldton
Marree
30
Bourke
Moree
Forrest
Cook
Tarcoola
Grafton
40
Kalgoorlie
Cobar
Tamworth
Eucla
Ceduna
Port Augusta
PERTH
Dubbo
60
Wagin
50
70
60
70
Mildura
Newcastle
SYDNEY
Esperance
ADELAIDE
40
CANBERRA
Wollongong
70
60
Cape Leeuwin
Albany
70
Cape du Couedic
70
70
Horsham
Echuca
50
Cooma
MELBOURNE
70
60
Portland
70
Sale
Point Hicks
Currie
80
Burnie
Launceston
70
60
Cape Sorell
70
80
HOBART

FIGURE 15


RELATIVE HUMIDITY-AVERAGE (%)
JANUARY
3 PM
(Available records 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Yirrkala
Weipa
DARWIN
Katherine
Ashmore Is
Troughton Is
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Cobar
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Newcastle
Wagin
Mildura
SYDNEY
Esperance
ADELAIDE
CANBERRA
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
20
30
40
50
60
70
80


RELATIVE HUMIDITY-AVERAGE (%)
JULY
9 AM
(Available records 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Yirrkala
Weipa
DARWIN
Katherine
Ashmore Is
Troughton Is
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Cobar
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Newcastle
Wagin
Mildura
SYDNEY
Esperance
ADELAIDE
CANBERRA
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
20
30
40
50
60
70
80
90

FIGURES 16 AND 17

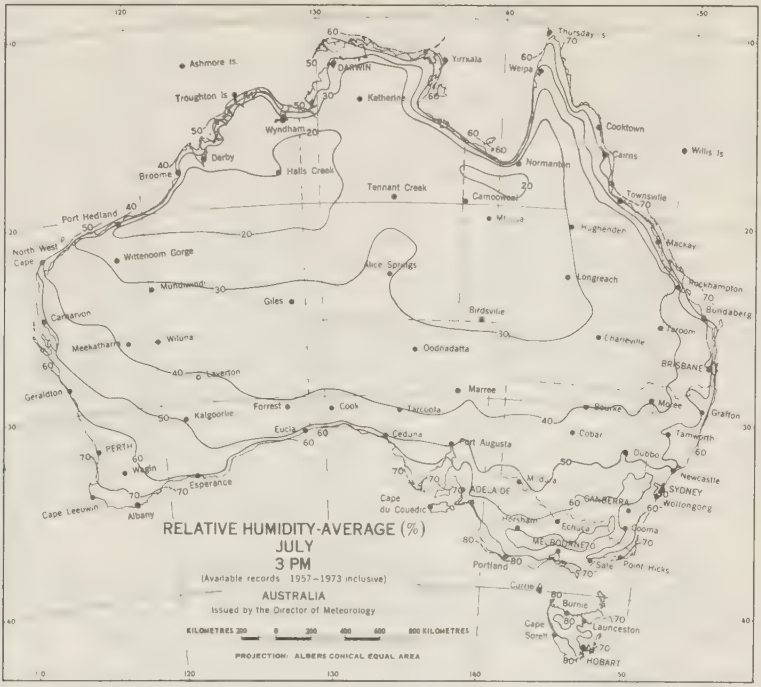

RELATIVE HUMIDITY-AVERAGE (%)
JULY
3 PM
(Available records 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is.
Troughton Is
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Cooktown
Cairns
Willis Is
Townsville
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Hughenden
Mackay
Longreach
Rockhampton
Bundaberg
Birdsville
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Geraldton
Marree
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Port Augusta
Cobar
Tamworth
Dubbo
PERTH
Wagin
Esperance
Newcastle
SYDNEY
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
ADELAIDE
Mildura
CANBERRA
Horsham
Echuca
Cooma
Portland
MELBOURNE
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
20
30
40
50
60
70
80

FIGURE 18

The tables below contain average relative humidity at 9 a.m. and 3 p.m. for each month and the year, for selected stations. Humidity values for the capital cities are contained in the detailed capital city statistical tables found further on.

AVERAGE RELATIVE HUMIDITY AT 9 A.M.
(per cent)

Station	*Period of record*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
Alice Springs	1941–87	34	39	40	45	56	65	59	47	35	31	29	29	42
Armidale	1907–87	63	69	71	73	78	80	77	71	61	57	56	57	68
Broome	1939–87	71	74	69	55	49	49	47	45	48	53	58	64	57
Carnarvon	1945–87	58	57	56	57	59	69	69	64	54	51	54	57	59
Ceduna	1939–87	53	59	61	66	76	81	80	75	64	54	51	51	64
Charleville	1942–87	47	53	52	53	63	71	66	56	44	40	37	39	52
Cloncurry	1939–75	52	60	52	45	47	51	45	37	31	31	31	40	43
Esperance	1969–87	58	60	64	70	74	77	77	74	68	61	60	57	67
Halls Creek	1944–87	51	56	44	34	34	34	31	25	22	25	30	39	36
Kalgoorlie	1939–87	45	51	53	59	68	74	74	67	54	48	44	43	56
Katanning	1957–87	57	64	66	75	83	88	88	86	80	68	59	56	72
Kiandra	1907–74	61	66	72	79	84	89	90	87	76	67	62	62	75
Marble Bar	1937–87	44	47	40	33	39	42	39	32	27	26	26	33	36
Mildura	1946–87	50	55	59	70	82	88	86	79	67	58	52	48	66
Mundiwindi	1938–81	31	35	34	37	44	53	49	39	28	23	22	23	35
Thursday Island	1950–87	84	86	85	82	82	81	80	78	75	73	73	77	80
Townsville	1940–87	72	76	74	69	68	67	67	63	60	61	63	66	67

AVERAGE RELATIVE HUMIDITY AT 3 P.M.
(per cent)

Station	*Period of record*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
Alice Springs	1941–87	20	23	23	25	31	34	30	24	20	19	18	18	23
Armidale	1909–87	44	47	47	48	52	56	52	47	42	42	40	41	46
Broome	1939–87	65	66	59	43	38	36	34	33	42	52	57	60	32
Carnarvon	1945–87	59	58	57	56	53	53	52	52	52	53	55	58	55
Ceduna	1939–87	42	45	45	45	51	54	55	50	45	43	40	42	46
Charleville	1942–87	28	33	32	31	36	39	35	29	24	24	21	23	29
Cloncurry	1939–75	32	38	34	29	29	30	26	22	20	19	19	24	27
Esperance	1969–87	56	58	58	57	58	60	58	57	57	56	57	57	57
Halls Creek	1944–87	34	38	31	25	27	25	22	19	17	18	20	26	25
Kalgoorlie	1939–87	24	29	31	37	43	49	47	40	31	27	25	23	33
Katanning	1957–87	30	34	37	48	56	66	66	62	56	44	36	30	46
Kiandra	1912–74	50	52	55	61	70	75	78	73	62	58	54	51	62
Marble Bar	1937–87	25	28	24	23	26	27	25	21	18	17	16	19	23
Mildura	1946–87	26	30	33	40	50	56	54	47	39	34	29	26	39
Mundiwindi	1938–81	19	22	21	22	27	32	28	22	15	13	13	14	20
Thursday Island	1951–87	78	81	79	74	71	69	67	65	65	65	65	71	71
Townsville	1940–87	66	67	65	60	57	52	51	51	52	55	57	60	58

Relative humidity is dependent on temperature and if the water content of the air remains constant, relative humidity decreases with increasing temperature. For instance Perth, for January, has a mean 9 a.m. relative humidity of 50 per cent, but for 3 p.m., when the mean temperature is higher, the mean relative humidity is 41 per cent.

Global radiation

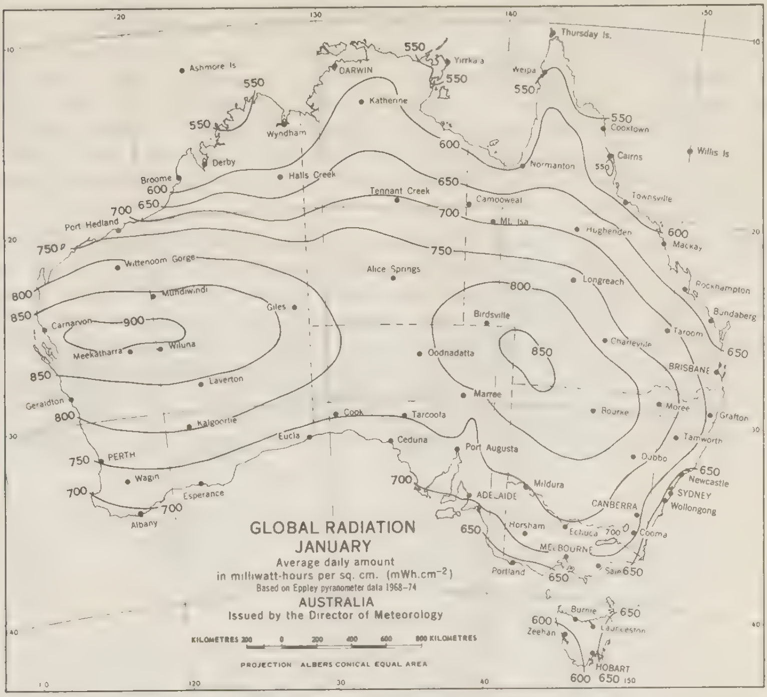
Global (short wave) radiation includes that radiation energy reaching the ground directly from the sun and that received indirectly from the sky, scattered downwards by clouds, dust particles, etc.

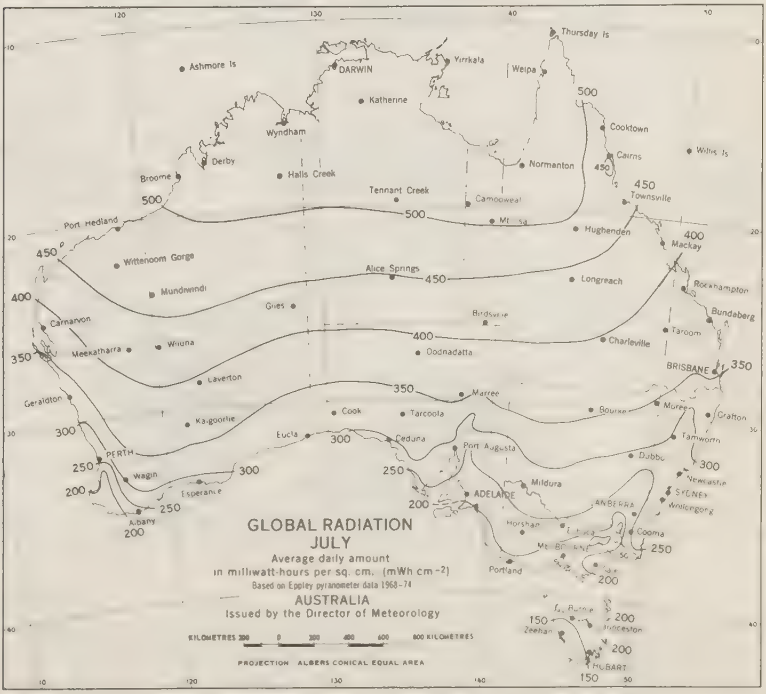
Figures 19 and 20 show the average global radiation for the months of January and July.

A high correlation exists between daily global radiation (Figures 19 and 20) and daily hours of sunshine (Figures 21 and 22). On the north-west coast around Port Hedland, where average daily global radiation is the highest for Australia (640 milliwatt hours), average daily sunshine is also highest, being approximately 10 hours. Sunshine is more dependent on variations in cloud coverage than is global radiation, since the latter includes diffuse radiation from the sky as well as direct radiation from the sun. An example is Darwin where, in the dry month of July, sunshine approaches twice that of the wet (cloudy) month of January but global radiation amounts for the two months are comparable.

Sunshine

Sunshine as treated here refers to bright or direct sunshine. Australia receives relatively large amounts of sunshine although seasonal cloud formations have a notable effect on its spatial and temporal distribution. Cloud cover reduces both incoming and outgoing radiation and thus affects sunshine, air temperature and other climatic elements at the earth's surface. Sunshine amounts at Australian capitals are included in the climatic tables at the end of this chapter.


GLOBAL RADIATION
JANUARY
Average daily amount
in milliwatt-hours per sq. cm. (mWh.cm^{-2})
Based on Eppley pyranometer data 1968–74
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt. Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Bourke
Moree
Grafton
Geraldton
Kalgoorlie
Cook
Tarcoola
Eucla
Ceduna
Port Augusta
Tamworth
Dubbo
PERTH
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
550
600
650
700
750
800
850
900
10
20
30
40
120
130
140
150


GLOBAL RADIATION
JULY
Average daily amount
in milliwatt-hours per sq. cm. (mWh cm^{-2})
Based on Eppley pyranometer data 1968–74
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Bourke
Moree
Grafton
Geraldton
Kalgoorlie
Cook
Tarcoola
Eucla
Ceduna
Port Augusta
Tamworth
Dubbo
PERTH
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Burnie
Launceston
Zeehan
HOBART
150
200
250
300
350
400
450
500
10
20
30
40
120
130
140
150

FIGURES 19 AND 20

Average daily sunshine (hours) in January and July based on all available data to August 1974 is shown in Figures 21 and 22. Sunshine for April and October and annual amounts are included in the *Climatic Atlas of Australia, 1988*. In areas where there is a sparsity of data, estimates of sunshine derived from cloud data are used. Most of the continent receives more than 3,000 hours of sunshine a year, or nearly 70 per cent of the total possible. In central Australia and the mid-west coast of Western Australia, totals slightly in excess of 3,500 hours occur. Totals of less than 1,750 hours occur on the west coast and highlands of Tasmania; this amount is only 40 per cent of the total possible per year (about 4,380 hours)

In southern Australia the duration of sunshine is greatest about December when the sun is at its highest elevation, and lowest in June when the sun is lowest. In northern Australia sunshine is generally greatest about August–October prior to the wet season, and least about January–March during the wet season. The table below gives the 20, 50 and 80 percentiles of daily bright sunshine for the months of January and July at selected stations. These values give an indication of the variability of daily sunshine hours. Perth, for example, has a high variability of daily sunshine hours in the wet month of July and a low variability in the dry month of January. Darwin has a low variability in the dry season month of July and a high variability in the wet season month of January.

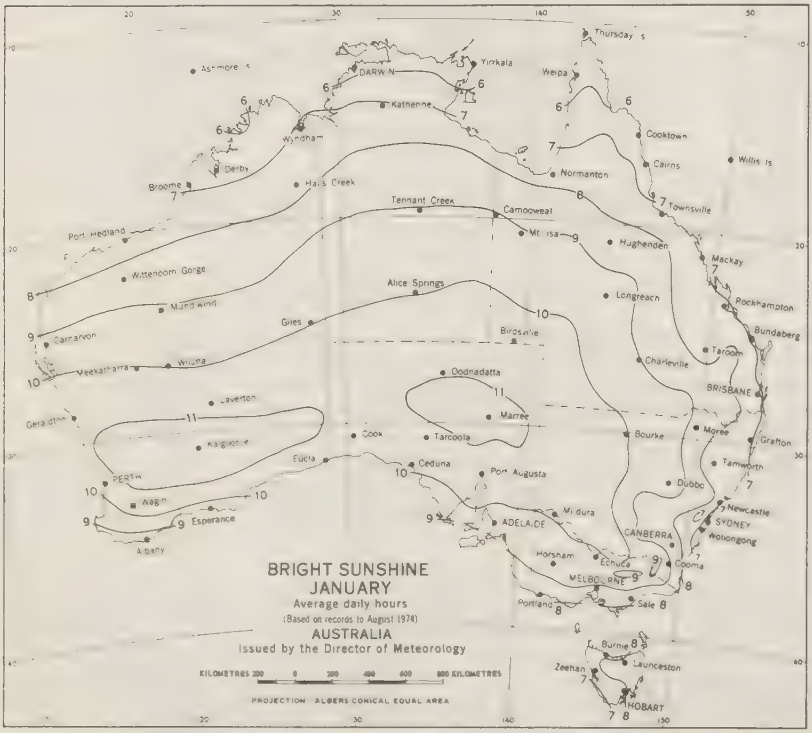

BRIGHT SUNSHINE
JANUARY
Average daily hours
(Based on records to August 1974)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Yirrkala
DARWIN
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Cooktown
Cairns
Willis Is
Normanton
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt Isa
Hughenden
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Charleville
Taroom
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
Albany
CANBERRA
Wollongong
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
6
7
8
9
10
11

FIGURE 21

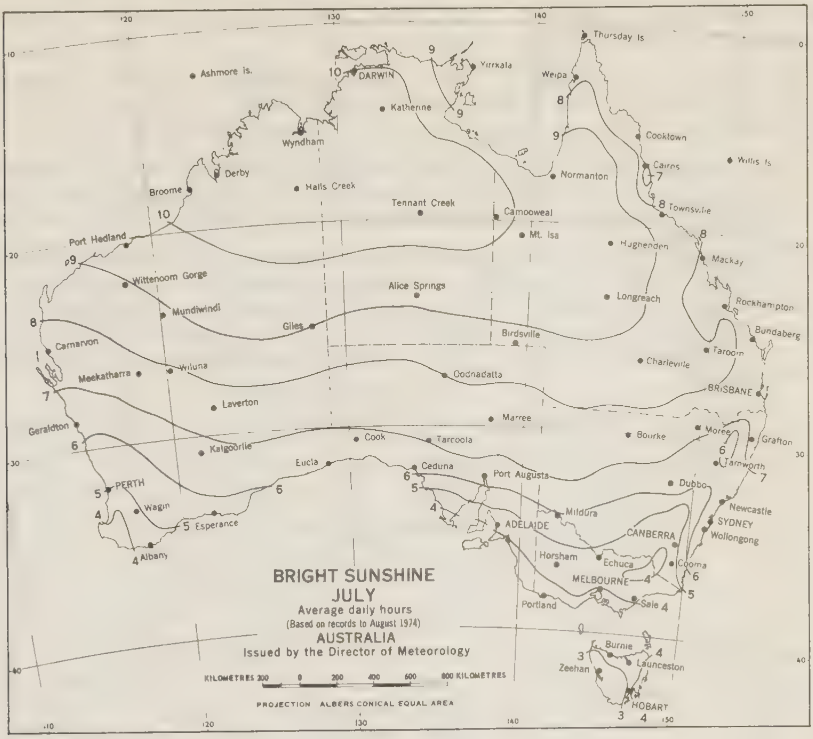

BRIGHT SUNSHINE
JULY
Average daily hours
(Based on records to August 1974)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Derby
Cairns
Willis Is
Normanton
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt. Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Moree
Bourke
Grafton
Kalgoorlie
Cook
Tarcoola
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Mildura
Newcastle
Wagin
Esperance
ADELAIDE
SYDNEY
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
10
9
8
7
6
5
4
3

FIGURE 22

BRIGHT SUNSHINE, VARIABILITY OF DAILY HOURS
(20, 50 and 80 percentile values)

		January			*July*		
		Percentile			*Percentile*		
Station	*Period of record*	*20*	*50*	*80*	*20*	*50*	*80*
Adelaide	1955–1986	6.8	11.9	13.3	1.1	4.0	7.3
Alice Springs	1954–1986	7.8	11.8	13.0	7.6	10.4	10.7
Brisbane	1951–1985	2.6	8.4	11.5	4.5	9.0	9.9
Canberra	1978–1986	7.0	11.3	12.7	2.4	6.4	8.3
Darwin	1951–1986	1.5	5.9	9.4	9.8	10.6	10.9
Hobart	1950–1986	4.3	8.7	12.1	1.5	4.4	7.2
Melbourne	1955–1986	5.5	9.9	12.6	0.8	3.6	6.3
Perth	1942–1986	9.2	12.0	12.7	2.5	5.4	8.6
Sydney	1955–1986	1.9	8.1	11.6	3.2	7.5	9.3
Townsville	1943–1986	3.0	9.0	11.3	6.7	10.0	10.6

Evaporation

Evaporation is determined by measuring the amount of water evaporated from a free water surface exposed in a pan. Evaporation from a free water surface depends on a number of climatic elements, mainly temperature, humidity and wind. Evaporation data are useful in water conservation studies and estimating potential evapotranspiration for irrigation and plant growth studies. In Australia, where surface water storage is vital over large areas, evaporation is a highly significant element.

Average January, July and annual (Class A) pan evaporation is mapped in Figures 23, 24 and 25 respectively. Evaporation maps for other months of the year and a more comprehensive commentary are given in the *Climatic Atlas of Australia, 1988*.

Due to the relatively short records at some stations, the maps may not be representative of climate averages in some areas. Dashed isopleths on the maps over some coastal fringes to aid interpolation do not represent evaporation from ocean surfaces or expanses of water.

Evaporation varies markedly with exposure of the instrument. Sheltering from wind and shading of pans cause local variations in measured evaporation of as much as 25 per cent. Instruments near expanses of water such as coastal inlets, rivers, reservoirs or irrigation systems may record lower evaporation than the surrounding country due to local effects on meteorological elements, notably humidity. Such reductions are about five to ten per cent.

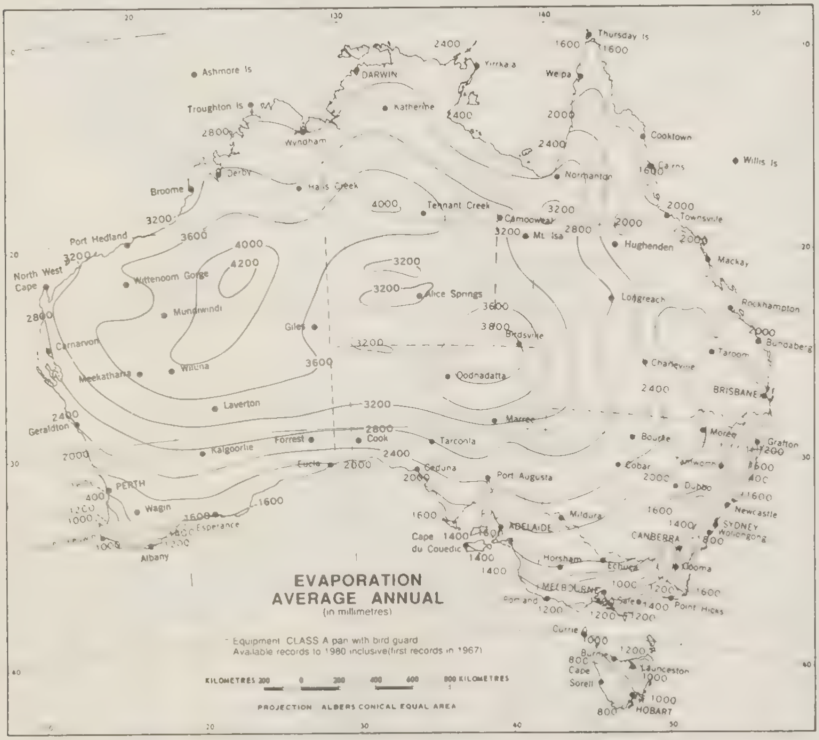
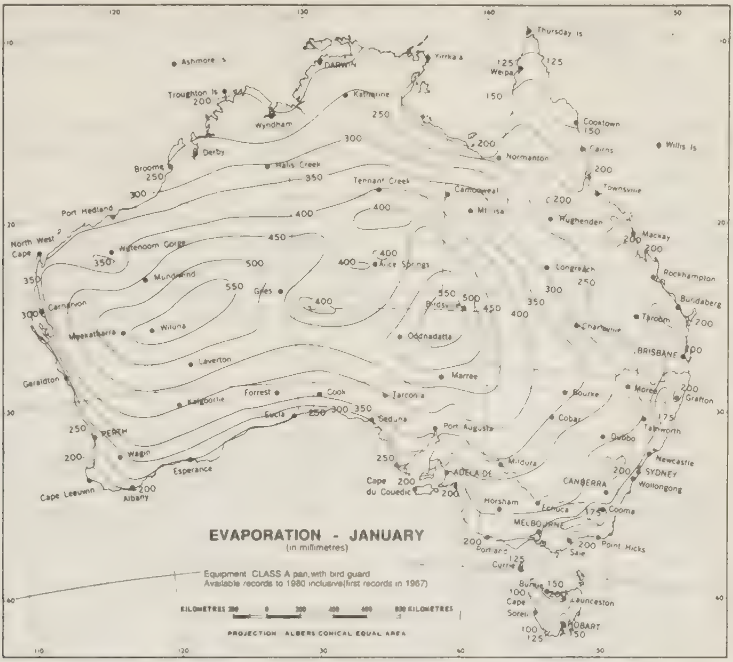
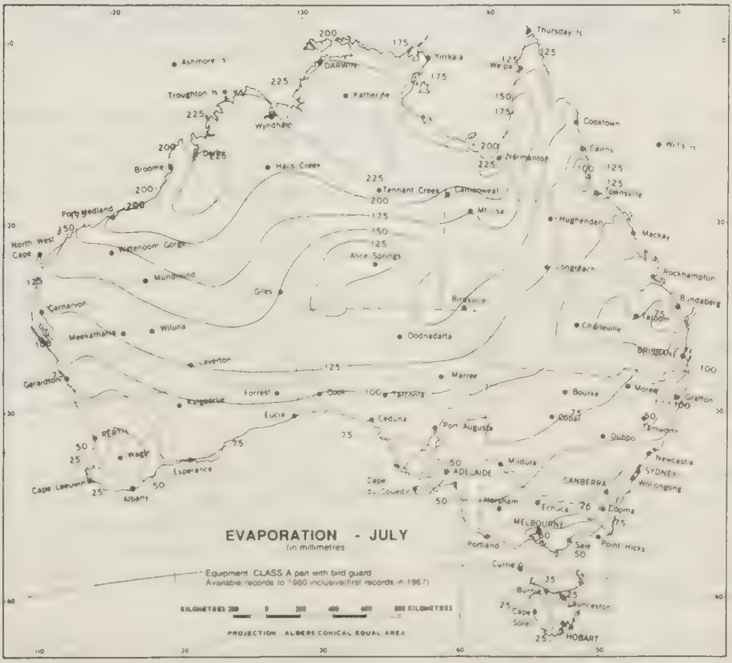

EVAPORATION
AVERAGE ANNUAL
(in millimetres)
Equipment CLASS A pan with bird guard
Available records to 1980 inclusive(first records in 1967)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Cooktown
Wyndham
Willis Is
Cairns
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt Isa
Hughenden
North West Cape
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Moree
Grafton
Bourke
Kalgoorlie
Forrest
Cook
Tarcoola
Eucla
Ceduna
Port Augusta
Cobar
Dubbo
PERTH
Newcastle
Wagin
Mildura
SYDNEY
Esperance
ADELAIDE
Wollongong
Albany
CANBERRA
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
4200
4000
3800
3600
3200
2800
2400
2000
1600
1400
1200
1000
800

FIGURE 23


EVAPORATION - JANUARY
(in millimetres)
Equipment CLASS A pan, with bird guard
Available records to 1980 inclusive (first records in 1967)
KILOMETRES
KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
DARWIN
BRISBANE
SYDNEY
CANBERRA
MELBOURNE
ADELAIDE
PERTH
HOBART


EVAPORATION - JULY
(in millimetres)
Equipment CLASS A pan with bird guard
Available records to 1980 inclusive (first records in 1967)
KILOMETRES
KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
DARWIN
BRISBANE
SYDNEY
CANBERRA
MELBOURNE
ADELAIDE
PERTH
HOBART

FIGURES 24 AND 25

The Class A pan instruments have a wire mesh bird guard, which reduces the measured evaporation. An estimate of the unguarded average Class A pan evaporation for any locality may be derived by applying a seven per cent increase to the value interpolated from the maps.

Average annual Class A pan evaporation ranges from more than 4,000mm over central Western Australia to less than 1,000mm in alpine areas of south-east Australia and in much of Tasmania.

In areas south of the tropics, average monthly evaporation follows seasonal changes in solar radiation, giving highest evaporation in December and January, and lowest in June and July. In the tropics, onset of summer brings increasing cloudiness and higher humidity, causing reduced evaporation in these months. Maximum evaporation in tropical areas occurs around November on average, but high evaporation is sustained when summer rains are delayed or are persistently below average.

Cloud and fog

Cloud

Seasonal changes in cloudiness vary with the distribution of rainfall. In the southern parts of the continent, particularly in the coastal and low lying areas, the winter months are generally more cloudy than the summer months. This is due to the formation of extensive areas of stratiform cloud and fog during the colder months, when the structure of the lower layers of the atmosphere favours the physical processes resulting in this type of cloud. Particularly strong seasonal variability of cloud cover exists in northern Australia where skies are clouded during the summer wet season and mainly cloudless during the winter dry season. Cloud coverage is greater near coasts and on the windward slopes of the eastern uplands of Australia and less over the dry interior.

The average monthly and annual number of cloudy days (days when the cloud coverage was greater than or equal to seven-eighths of the sky) and clear days (less than or equal to one-eighth) is included for the capital cities in the detailed capital city statistical tables.

Fog

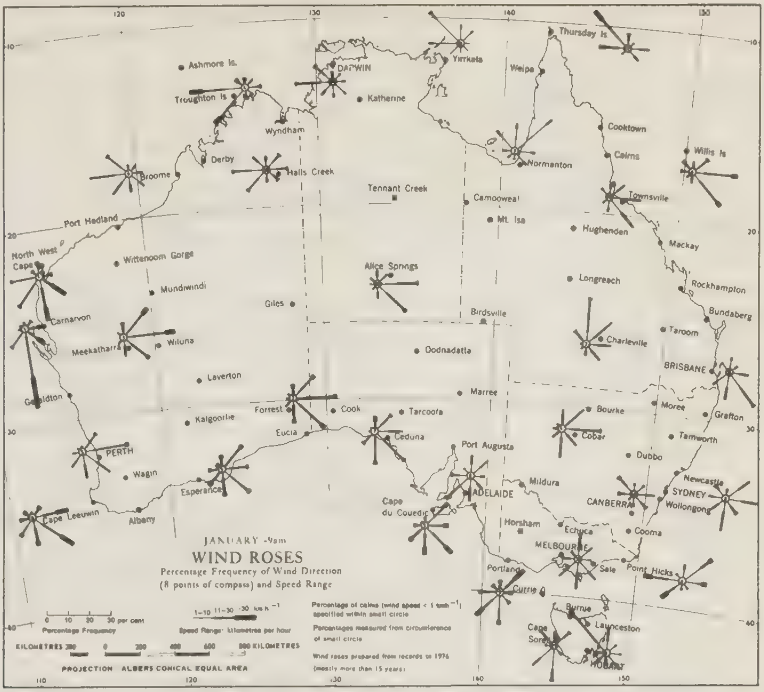
The formation of fog depends on the occurrence of favourable meteorological elements—mainly temperature, humidity, wind and cloud cover. The nature of the local terrain is important for the development of fog and there is a tendency for this phenomenon to persist in valleys and hollows. The incidence of fog may vary significantly over distances as short as one kilometre.

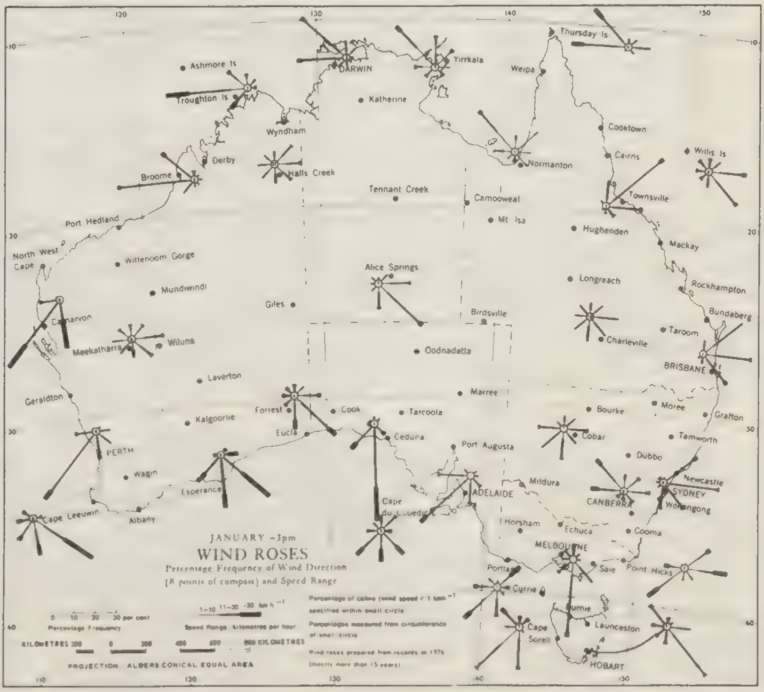
Fog in Australia tends to be greater in the south than the north, although parts of the east coastal areas are relatively fog prone even in the tropics. Incidence is much greater in the colder months, particularly in the eastern uplands. Fog may persist during the day but rarely until the afternoon over the interior. The highest fog incidence at a capital city is at Canberra which has an average of 47 days per year on which fog occurs, 29 of which are in the period of May to August. Brisbane averages 20 days of fog per year. Darwin averages only 2 days per year, in the months of July and August.

Winds

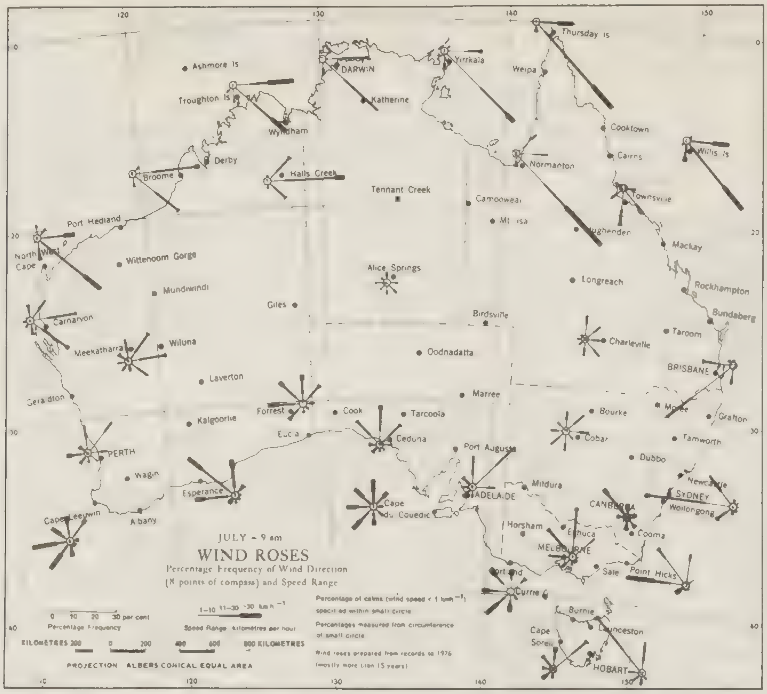
The mid-latitude anticyclones are the chief determinants of Australia's two main prevailing wind streams. In relation to the west–east axes of the anticyclones these streams are easterly to the north and westerly to the south. The cycles of development, motion and decay of low pressure systems to the north and south of the anticyclones result in diversity of wind flow patterns. Wind variations are greatest around the coasts where diurnal land and sea-breeze effects are important.

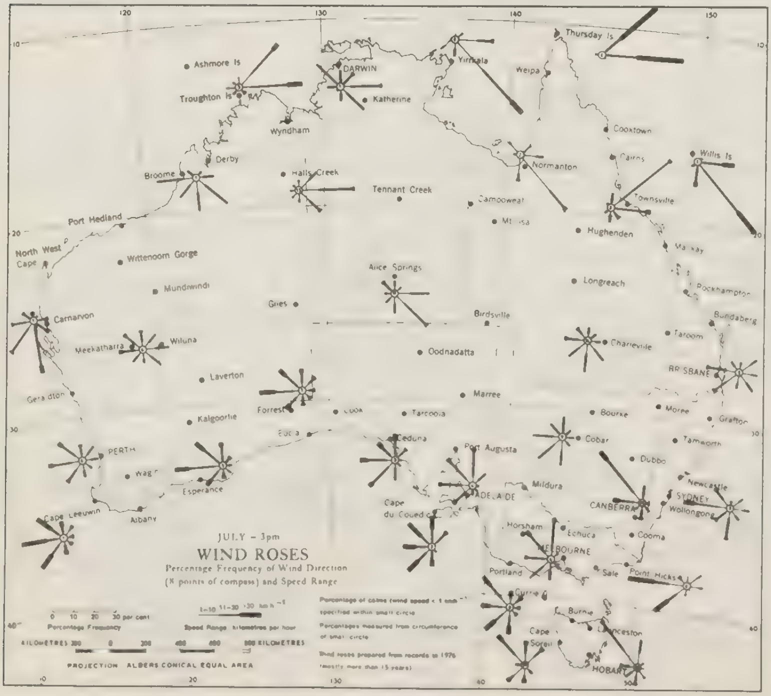
Wind roses for the months of January and July at 9 a.m. and 3 p.m. at selected stations are shown in Figures 26 to 29 inclusive, extracted from *Climatic Atlas of Australia, 1988.*


JANUARY -9am
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h^{-1}
Speed Range: kilometres per hour
Percentage of calms (wind speed < 1 km h^{-1}) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Ashmore Is.
Troughton Is
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt. Isa
Normanton
Cooktown
Cairns
Willis Is
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Giles
Carnarvon
Meekatharra
Wiluna
Birdsville
Charleville
Taroom
Oodnadatta
BRISBANE
Laverton
Geraldton
Forrest
Cook
Tarcoola
Marree
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
ADELAIDE
Mildura
Newcastle
SYDNEY
Wollongong
CANBERRA
Cape du Couedic
Horsham
Echuca
Cooma
Cape Leeuwin
Albany
MELBOURNE
Sale
Point Hicks
Portland
Currie
Burnie
Launceston
Cape Sorell
HOBART


JANUARY -3pm
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h^{-1}
Speed Range: kilometres per hour
Percentage of calms (wind speed < 1 km h^{-1}) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Ashmore Is
Troughton Is
DARWIN
Yirrkala
Thursday Is
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Cooktown
Cairns
Willis Is
Townsville
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Charleville
Taroom
Oodnadatta
BRISBANE
Laverton
Geraldton
Forrest
Cook
Tarcoola
Marree
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
ADELAIDE
Mildura
Newcastle
SYDNEY
Wollongong
CANBERRA
Cape du Couedic
Horsham
Echuca
Cooma
Cape Leeuwin
Albany
MELBOURNE
Sale
Point Hicks
Portland
Currie
Burnie
Launceston
Cape Sorell
HOBART

FIGURES 26 AND 27


JULY – 9 am
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h⁻¹
Speed Range kilometres per hour
Percentage of calms (wind speed < 1 km h⁻¹) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
120
130
140
150
10
20
30
40
Ashmore Is
Troughton Is
Wyndham
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Camooweal
Mt Isa
Townsville
Hughenden
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Mackay
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Geraldton
Forrest
Cook
Tarcoola
Marree
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
ADELAIDE
SYDNEY
Wollongong
Cape du Couedic
CANBERRA
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART


JULY – 3pm
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h⁻¹
Speed Range kilometres per hour
Percentage of calms (wind speed < 1 km h⁻¹) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
120
130
140
150
10
20
30
40
Ashmore Is
Troughton Is
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
North West Cape
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Geraldton
Forrest
Cook
Tarcoola
Marree
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
ADELAIDE
SYDNEY
Wollongong
Cape du Couedic
CANBERRA
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART

FIGURES 28 AND 29

The wind roses show the percentage frequency of direction (eight points of compass) and speed ranges of winds.

Orography affects the prevailing wind pattern in various ways such as the channelling of winds through valleys, deflection by mountains and cold air drainage from highland areas. An example of this channelling is the high frequency of north-west winds at Hobart caused by the north-west – south-east orientation of the Derwent River Valley.

Average wind speeds and prevailing directions at Australian capitals are included in the detailed climatic tables. Perth is the windiest capital with an average wind speed of 15.6 kilometres per hour; Canberra is the least windy with an average speed of 5.4 kilometres per hour.

The highest wind speeds and wind gusts recorded in Australia have been associated with tropical cyclones. The highest recorded gust was 259 kilometres per hour at Mardie (near Onslow), Western Australia on 19 February 1975, and gusts reaching 200 kilometres per hour have been recorded on several occasions in northern Australia with cyclone visitations. The highest gusts recorded at Australian capitals were 217 kilometres per hour at Darwin and 156 kilometres per hour at Perth.

Droughts

Drought, in general terms, refers to an acute deficit of water supply to meet a specified demand. The best single measure of water availability in Australia is rainfall, although parameters such as evaporation and soil moisture are significant, or even dominant in some situations. Demands for water are very diverse, hence the actual declaration of drought conditions for an area will generally also depend on the effects of a naturally occurring water deficit on the principal local industries.

Since the 1860s there have been nine major Australian droughts. Some of these major droughts could be described as periods consisting of a series of dry spells of various lengths, overlapping in time and space, and totalling up to about a decade. The drought periods of 1895–1903 and 1958–68 and the drought of 1982–83 were the most devastating in terms of their extent and effects on primary production. The remaining six droughts occurred in 1864–66 (and 1868), 1880–86, 1888, 1911–16, 1918–20 and 1939–45.

In this same period, six droughts of lesser severity caused significant losses over large areas of several States. They occurred in 1922–23 and 1926–29, 1933–38, 1946–49, 1951–52, 1970–73 and 1976.

South-eastern Australia (New South Wales, southern Queensland, Victoria, Tasmania and the settled parts of South Australia) contains about 75 per cent of the nation's population, and droughts affecting this region have a markedly adverse impact on the economy. There have been eight severe droughts in south-eastern Australia since 1888, and these were encompassed within the major Australian droughts specified previously, except for the severe drought in 1972–73. Drought definitions and the area of coverage and length of these droughts, together with related information may be obtained from *Year Book Australia 1988*.

Floods

Widespread flood rainfall may occur anywhere in Australia but it has a higher incidence in the north and in the eastern coastal areas. It is most economically damaging along the shorter streams flowing from the eastern uplands eastward to the seaboard of Queensland and New South Wales. These flood rains are notably destructive in the more densely populated coastal river valleys of New South Wales—the Tweed, Richmond, Clarence, Macleay, Hunter and Nepean–Hawkesbury—all of which experience relatively frequent flooding. Although chiefly caused by summer rains, they may occur in any season.

The great Fitzroy and Burdekin river basins of Queensland receive flood rains during the summer wet seasons. Much of the run-off due to heavy rain in north Queensland west of the eastern uplands flows southward through the normally dry channels of the network of rivers draining the interior lowlands into Lake Eyre. This widespread rain may cause floods over an extensive area, but it soon seeps away or evaporates, occasionally reaching the lake in quantity. The Condamine and other northern tributaries of the Darling also carry large volumes of water from flood rains south through western New South Wales to the Murray and flooding occurs along their courses at times.

Flood rains occur at irregular intervals in the Murray–Murrumbidgee system of New South Wales and Victoria, the coastal streams of southern Victoria and the north coast streams of Tasmania.

Climatic discomfort

In Australia climatic discomfort is significant in most areas. During the summer half of the year (November–April), prolonged high temperatures and humidity around the northern coasts and high temperatures over the inland cause physical stress. In winter, low temperatures and strong cold winds over the interior and southern areas can be severe for relatively short periods. However, cold stress does not cause prolonged physical hardship in Australia at altitudes lower than 1,000 metres, that is, over more than 99 per cent of the continent.

The climatic variables determining physical discomfort are primarily air temperature, vapour pressure and wind. The complete assessment of physical discomfort also requires analyses of such parameters as thermal conductivity of clothing, vapour pressure at the skin and the metabolic heat rate arising from activity of the human body. The cooling system of the human body depends on evaporation of moisture to keep body temperature from rising to lethal levels as air temperature rises. Defining criteria of discomfort is difficult because personal reactions to the weather differ greatly according to a number of variables including health, age, clothing, occupation and acclimatisation (Ashton, 1964). However, climatic strain has been measured experimentally, and discomfort indices based on the average response of subjects under specified conditions have been derived. One of the most commonly used indices is the relative strain index. The index, derived by Lee and Henschel (1963), has been applied in Australia to measure heat discomfort. The results obtained with Australian data are useful for purposes of comparison but interpretation of the actual results is tentative until empirical environmental studies are carried out in this region. In addition to temperature, humidity and air movement, the relative strain index has facilities for the incorporation of metabolic heat rate, net radiation and insulation of clothing. It has the advantage of being applicable to manual workers under shelter and expending energy at various metabolic heat rates.

The discomfort map, Figure 30, shows the average number of days per year when the relative strain index exceeds 0.3 discomfort level at 3 p.m. assuming standard conditions as defined (see following table). Maximum discomfort generally occurs around 3 p.m. on days of high temperature.

A notable feature is the lower frequency of days of discomfort in Queensland coastal areas in comparison with the northern coastal areas of Western Australia. This is due to the onshore winds prevailing on the Queensland coast and the cooling effect of the adjacent eastern uplands. Lower frequencies on the Atherton Plateau in the tropics near Cairns show the advantage of altitude. Relatively low heat discomfort frequencies are evident in upland and coastal areas of south-east Australia. Tasmania is entirely in the zone of least discomfort, experiencing on the average less than one day of heat discomfort per year. In Western Australia most of the Kimberley region in the north lies in the highest discomfort zone with the frequencies decreasing southwards to a strip of lowest discomfort towards the south-west coast. A steep gradient of discomfort frequency on the west coast shows the moderating effect of sea-breezes.

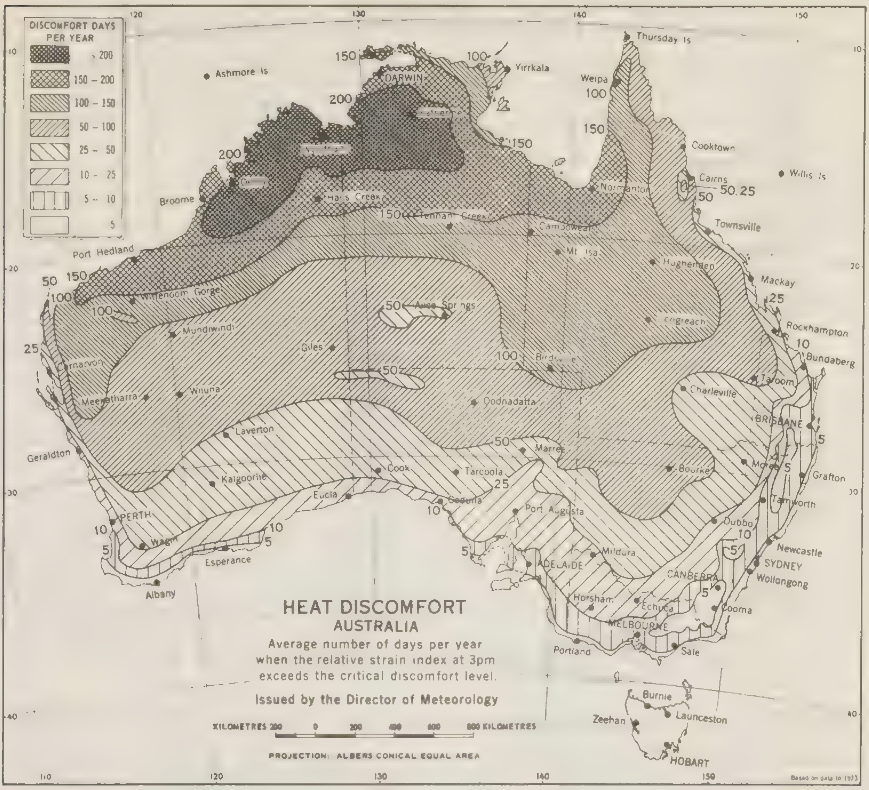

DISCOMFORT DAYS PER YEAR
> 200
150 – 200
100 – 150
50 – 100
25 – 50
10 – 25
5 – 10
5
HEAT DISCOMFORT
AUSTRALIA
Average number of days per year when the relative strain index at 3pm exceeds the critical discomfort level.
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Based on data to 1973
Ashmore Is
DARWIN
Yirrkala
Thursday Is
Weipa
Cooktown
Cairns
Willis Is
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Townsville
Port Hedland
Wittenoom Gorge
Mt Isa
Hughenden
Mackay
Mundiwindi
Alice Springs
Longreach
Rockhampton
Carnarvon
Giles
Birdsville
Bundaberg
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Port Augusta
Tamworth
PERTH
Dubbo
Newcastle
Wagin
Esperance
Mildura
SYDNEY
Wollongong
Albany
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
200
150
100
50
25
10
5

FIGURE 30

The average annual frequency of days when the relative strain index at 3 p.m. exceeds specified discomfort levels is shown in the table below. The Sydney frequencies were derived from observations at the regional office of the Bureau of Meteorology, which is representative of eastern coastal suburbs; frequencies are higher in western suburbs. The Melbourne frequencies were derived from observations at the Bureau's regional office, which may be taken as fairly representative of inner northern and eastern suburbs; frequencies are lower in bayside suburbs. Similarly, in other capital city areas significant variations occur with distance from the coast.

HEAT DISCOMFORT (a)

		Greater than—	
Station	*Period of record*	*0.3 RSI*	*0.4 RSI*
Adelaide	1956–86	6	2
Alice Springs	1942–87	52	4
Brisbane	1951–85	7	2
Broome	1941–67	163	66
Canberra	1940–87	3	<1
Carnarvon	1950–87	25	6
Ceduna	1943–87	15	3
Charleville	1943–87	45	6
Cloncurry	1942–74	132	37
Cobar	1964–85	23	3
Darwin	1943–87	173	32
Hobart	1944–87	<1	<1
Kalgoorlie	1943–87	28	4
Marble Bar	1957–74	179	86
Melbourne	1955–87	6	2
Mildura	1947–87	20	4
Perth	1942–87	13	2
Rockhampton	1940–87	42	8
Sydney	1955–86	3	<1
Townsville	1941–87	48	5
Wagga	1945–85	12	2
Woomera	1950–87	28	5

(a) Average number of days per year when relative strain index (RSI) at 3 p.m. exceeds 0.3 (discomfort) and 0.4 (high discomfort) under standard conditions (indoors, manual activities, light clothing, air movement 60 metres per minute)

At inland places, relatively low night temperatures have recuperative effects after hot days.

Acclimatised people would suffer discomfort less frequently than shown by the relative strain index figures. For example, Australians living in the north evidently experience less discomfort at high air temperatures than those in the south, if humidities are comparable.

Both direction and speed of prevailing winds are significant for the ventilation of buildings. In the tropics, for instance, windward slopes allow optimal air movement enabling more comfortable ventilation to be obtained. Regular sea-breezes such as those experienced at Perth reduce discomfort although on some days their full benefit may not be experienced until after 3 p.m.

Climatic data for capital cities

The means and/or extremes for a number of elements determined from long-period observations at the Australian captials are given in the following pages. In general, all data up to and including 1987 are covered. Data for other localities are contained in *Climatic Averages Australia, 1988.*

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES

(Lat. 33° 52′ S., Long. 151° 12′ E. Height above mean sea level (M.S.L.) 42 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month		*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Wind (height of anemometer 22 metres)*				*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
			Average (km/h)	*Highest gust speed (km/h)*	*Prevailing direction*					
					9 a.m.	*3 p.m.*				
No. of years of record		72	32	62	94	94	*(c)*67	67	31	76
January		1,012.7	12.3	150	S	E	220	3.2	12	5.1
February		1,014.3	11.6	111	S	E	178	2.5	11	4.6
March		1,016.4	10.5	96	W	E	164	1.6	10	5.9
April		1,018.3	10.2	116	W	E	123	1.2	8	7.7
May		1,018.9	10.5	135	W	S	93	0.8	8	7.9
June		1,018.8	11.6	135	W	S	78	0.8	9	8.2
July		1,018.6	11.5	109	W	W	90	0.7	6	10.7
August		1,017.9	12.1	113	W	W	115	1.3	6	10.9
September		1,017.0	11.6	131	W	E	141	1.8	7	9.0
October		1,015.3	12.3	153	W	ENE	171	2.6	10	6.5
November		1,013.6	12.4	118	S	E	192	3.5	10	5.3
December		1,012.0	12.3	121	S	E	239	3.6	10	5.0
Year	**Totals**	..	..	..	..	..	**1,804**	**23.7**	**107**	**86.8**
	Averages	**1,016.1**	**11.6**	..	**W**	**E**	..	..	..	..
	Extremes	..	..	**153**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Sydney Airport, Class A Pan (1974–80).

TEMPERATURE AND SUNSHINE

Month		*Air temperature daily readings (°Celsius)*			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		*Mean daily hours sun-shine*
		Mean max.	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	
No. of years of record		123	123	123	123		123		124		61
January		25.8	18.4	22.1	45.3	14/39	10.6	18/49	6.5	6/25	7.2
February		25.5	18.5	22.0	42.1	8/26	9.6	28/63*	6.0	22/3	6.8
March		24.6	17.4	21.0	39.2	3/69*	9.3	14/86*	4.4	17/1	6.3
April		22.2	14.6	18.4	33.9	5/86	7.0	27/64*	0.7	24/0	6.3
May		19.7	11.3	15.5	30.0	1/19	4.4	30/62*	–1.5	25/1	5.8
June		16.7	9.2	12.9	26.9	11/31	2.1	22/32	–2.2	22/3	5.3
July		15.9	7.9	11.9	25.7	22/26	2.2	12/90*	–4.4	4/93 *	6.3
August		17.5	8.9	13.2	30.4	24/54	2.7	3/72*	–3.3	4/0	6.9
September		19.7	10.9	15.3	34.6	26/65	4.9	2/45	–1.1	17/0	7.2
October		21.9	13.4	17.7	37.4	4/42	5.7	6/27	0.4	9/0	7.3
November		23.5	15.5	19.5	40.3	6/46	7.7	1/05	1.9	21/6	7.6
December		25.0	17.3	21.1	42.2	20/5	9.1	3/24	5.2	3/2	7.5
Year	**Averages**	**21.5**	**13.6**	**17.4**	..	..	..	..	..	..	**6.7**
	Extremes	..	..	..	**45.3**	**14/1/39**	**2.1**	**22/6/32**	**–4.4**	**4/7/1893**	..

NOTE: Figures such as 14/39, 18/49, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES — *continued*
(Lat. 33° 52′ S., Long. 151° 12′ E. Height above mean sea level (M.S.L.) 42 metres)

HUMIDITY, RAINFALL AND FOG

Month		*Rel. hum (%)* 9 a.m. mean	*Rel. hum (%)* 3 p.m. mean	*Rainfall (millimetres)* Mean monthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day	Date	Mean No. days fog
No. of years of record		31	31	128	128	128		128		128		61
January		69	62	102	13	388	(1911)	6	(1932)	180	13/11	0.3
February		72	64	113	13	564	(1954)	3	(1939)	226	25/73*	0.6
March		72	62	135	14	521	(1942)	8	(1965)	281	28/42	1.3
April		71	58	124	13	622	(1861)	2	(1868)	191	29/00	1.9
May		72	55	121	13	585	(1919)	4	(1957)	212	28/89*	3.0
June		74	57	131	12	643	(1950)	4	(1962)	131	16/84*	2.4
July		69	50	101	11	336	(1950)	2	(1970)	198	7/31	1.9
August		66	49	80	11	471	(1986)	1	(1885)	328	6/86	1.5
September		62	51	69	11	357	(1879)	2	(1882)	145	10/79*	0.9
October		61	56	78	12	283	*(a)*	2	(1971)	162	13/02	0.6
November		63	57	81	12	517	(1961)	2	(1915)	235	9/84	0.5
December		65	59	77	12	402	(1920)	3	(1979)	126	9/70	0.4
Year	**Totals**	..	..	**1,214**	**148**		..		..	..	..	**15.2**
	Averages	**68**	**57**	..	..	..	..	..	..	..		
	Extremes	..	..	..	..	**643**	**(6/1950)**	**1**	**(8/1885)**	**281**	**28/3/1942**	..

(a) 1916 and 1959.
NOTE: Figures such as 13/11, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: MELBOURNE, VICTORIA
(Lat. 37° 49′ S., Long. 144° 58′ E. Height above M.S.L. 35 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month		Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)	*Wind (height of anemometer 28 metres)* Average (km/h)	Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.	Mean amount evaporation (mm)	Mean No. days thunder	Mean No. cloudy days *(a)*	Mean No. clear days *(b)*
No. of years of record		130	*(c)*47	77	34	34	*(d)*20	79	31	79
January		1,012.9	11.9	106	S	S	204	1.6	7	6.5
February		1,014.4	11.5	119	SE	SE	179	1.7	7	6.2
March		1,016.8	10.5	106	N	S	135	1.3	10	5.4
April		1,019.0	10.1	108	N	S	91	0.7	11	4.2
May		1,019.2	10.6	116	N	N	57	0.4	14	2.9
June		1,019.0	10.8	103	N	N	36	0.2	13	2.7
July		1,018.6	12.1	109	N	N	43	0.2	12	2.6
August		1,017.6	12.1	108	N	N	61	0.6	13	2.7
September		1,016.0	12.4	120	N	S	85	0.7	11	3.6
October		1,014.8	12.2	111	N	S	125	1.5	12	3.6
November		1,014.0	12.5	114	SW	S	151	1.9	12	3.2
December		1,012.4	12.3	104	SW	S	187	2.1	10	4.2
Year	**Totals**	..	..	..	..	..	**1,356**	**12.8**	**132**	**48.0**
	Averages	**1,016.2**	**11.7**	..	**N**	**S**	..	..	..	..
	Extremes	..	..	**120**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Early records not comparable. *(d)* Class A Pan.

CLIMATIC DATA: MELBOURNE, VICTORIA — *continued*
(Lat. 37° 49′ S., Long. 144° 58′ E. Height above M.S.L. 35 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sun-shine*
No. of years of record	131	131	131	131		131		122		(*a*)52
January	25.8	14.0	19.9	45.6	13/39	5.6	28/85*	–1.0	28/85 *	8.1
February	25.7	14.3	20.0	43.2	8/83	4.6	24/24	–0.6	6/91 *	7.5
March	23.8	13.0	18.4	41.7	11/40	2.8	17/84*	–1.7	(*b*)	6.6
April	20.1	10.6	15.3	34.9	5/38	1.6	24/88*	–3.9	23/97 *	5.1
May	16.5	8.5	12.5	28.7	7/05	–1.2	29/16	–6.1	26/16	3.9
June	13.9	6.7	10.3	22.4	2/57	–2.2	11/66*	–6.7	30/29	3.4
July	13.3	5.7	9.5	23.1	30/75	–2.8	21/69*	–6.4	12/03	3.7
August	14.8	6.5	10.7	26.5	29/82	–2.1	11/63*	–5.9	14/02	4.6
September	17.1	7.7	12.4	31.4	28/28	–0.6	3/40	–5.1	8/18	5.5
October	19.5	9.3	14.4	36.9	24/14	0.1	3/71*	–4.0	22/18	5.9
November	21.8	10.9	16.4	40.9	27/94*	2.4	2/96*	-4.1	2/96 *	6.5
December	24.1	12.7	18.4	43.7	15/76	4.4	4/70*	0.7	1/04	7.3
Year **Averages**	**19.7**	**10.0**	**14.9**	..	..	..	..	..	. .	5.7
Extremes	..	..	..	**45.6**	**13/1/39**	**–2.8**	**21/7/69***	**–6.7**	**30/6/29**	..

(*a*) Discontinued 1967. (*b*) 17/1884 and 20/1897.
NOTE: Figures such as 13/39, 28/85*, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century.

HUMIDITY, RAINFALL AND FOG

	Rel. hum (%)		Rainfall (millimetres)								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No.of years of record	78	78	131	131	131		131		128		129
January	59	46	47	8	176	(1963)	(*a*)	(1932)	108	29/63	0.1
February	63	48	48	7	238	(1972)	(*a*)	(1965)	87	26/46	0.3
March	65	50	53	9	191	(1911)	4	(1934)	90	5/19	0.7
April	72	54	58	11	195	(1960)	Nil	(1923)	80	23/60	1.7
May	78	61	58	14	142	(1942)	4	(1934)	51	15/74	3.4
June	82	65	49	14	115	(1859)	8	(1858)	44	22/04	4.3
July	81	63	48	15	178	(1891)	9	(1979)	74	12/91*	4.1
August	75	58	51	15	111	(1939)	12	(1903)	54	17/81*	2.2
September	68	54	59	14	201	(1916)	13	(1907)	59	23/16	0.8
October	62	52	68	14	193	(1869)	7	(1914)	61	21/53	0.4
November	61	50	59	12	206	(1954)	6	(1895)	732	1/54	0.2
December	59	47	58	10	182	(1863)	1	(1972)	100	4/54	0.2
Totals	..	..	**655**	**143**		..		..	..	..	**18.2**
Year **Averages**	**69**	**54**	..	..		..		..	..	..	..
Extremes	..	..	..	..	**238**	**(2/72)**	**Nil**	**(4/23)**	**108**	**29/1/63**	..

(*a*) Less than 1 mm.
NOTE: Figures such as 29/63, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: BRISBANE, QUEENSLAND
(Lat. 27° 28′ S., Long. 153° 2′ E. Height above M.S.L. 41 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Wind (height of anemometer 32 metres)*				*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
		Average (km/h)	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*				
No. of years of record	99	70	71	*(c)*	*(c)*	*(d)*19	99	99	78
January	1,011.7	11.7	145	SE	NE	176	4.4	4	3.2
February	1,012.5	11.5	108	SSW	NE	142	3.5	4	2.5
March	1,014.5	11.1	106	SSW	ENE	140	2.2	4	5.5
April	1,017.1	10.1	104	SW	SE	114	1.4	2	7.7
May	1,018.5	9.5	87	SW	SE	81	0.5	3	9.5
June	1,018.4	9.8	95	SW	W	64	0.5	2	10.5
July	1,018.9	9.6	111	SW	W	70	0.3	2	13.3
August	1,018.9	9.7	100	SW	NE	98	1.3	2	13.5
September	1,017.8	10.1	102	SW	NE	128	2.7	2	12.4
October	1,016.1	10.6	100	SW	NE	152	4.1	3	8.3
November	1,014.2	11.1	111	SE	NE	168	5.6	3	5.8
December	1,012.1	11.4	127	SE,N	NE	193	6.5	3	4.5
Year Totals	..	..	..	..	..	**1,526**	**33.0**	**34**	**96.7**
Year Averages	**1,015.9**	**10.5**	..	**SW**	**NE**	..	..	..	..
Year Extremes	..	..	**145**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* 1887–1986. *(d)* Class A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (°Celsius)*			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		*Mean daily hours sunshine*
	Mean max.	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	
No. of years of record	99		99	99		99	98		77	
January	29.4	20.8	25.0	43.2	26/40	14.9	4/93*	9.9	4/93*	7.6
February	29.0	20.6	24.8	40.9	21/25	14.7	23/31	9.5	22/31	7.0
March	28.0	19.4	23.7	38.8	13/65	11.3	29/13	7.4	29/13	6.8
April	26.1	16.7	21.3	36.1	19/73	6.9	25/25	2.6	24/25	7.2
May	23.2	13.4	18.3	32.4	21/23	4.8	30/51	–1.2	8/97*	6.8
June	20.8	10.9	15.9	31.6	19/18	2.4	29/08	–3.7	23/88*	6.7
July	20.4	9.6	15.0	29.1	23/46	2.3	*(a)*	–4.5	11/90*	7.0
August	21.8	10.3	16.1	32.8	14/46	2.7	13/64	–2.7	9/99*	8.0
September	24.0	12.9	18.5	38.3	22/43	4.8	1/96*	–0.9	1/89*	8.3
October	26.1	15.9	20.9	40.7	30/58	6.3	3/99*	1.6	8/89*	8.2
November	27.8	18.2	22.9	41.2	18/13	9.2	2/05	3.8	1/05	8.2
December	29.1	19.9	24.5	41.2	7/81	13.5	5/55	9.5	3/94*	8.2
Year Averages	**25.5**	**15.7**	**20.6**	..	..	..	..	..	..	**7.5**
Year Extremes	..	..	..	**43.2**	**26/1/1940**	**2.3**	**(a)**	**–4.5**	**11/7/1890**	..

(a) 12/1894 and 2/1896.

NOTE: Figures such as 26/40, 4/93*, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA: BRISBANE, QUEENSLAND — *continued*
(Lat. 27° 28′ S., Long. 153° 2′ E. Height above M.S.L. 41 metres)

HUMIDITY, RAINFALL AND FOG

		Rel. hum (%)		Rainfall (millimetres)								
Month		*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record		47	44	135	126	135		135		135	99	
January		66	58	164	13	872	(1974)	8	(1919)	465	21/87*	0.5
February		70	60	161	14	1,026	(1893)	15	(1849)	270	6/31	0.5
March		71	59	143	15	865	(1870)	Nil	(1849)	284	14/08	1.1
April		69	54	87	11	388	(1867)	1	(1944)	178	3/72	2.1
May		70	52	73	10	410	(1980)	Nil	(1846)	149	9/80	2.9
June		70	51	68	8	647	(1967)	Nil	(1847)	283	12/67	2.7
July		68	47	57	7	330	(1973)	Nil	*(a)*	193	20/65	2.7
August		64	44	46	7	373	(1879)	Nil	*(b)*	124	12/87*	3.3
September		61	46	47	8	138	(1886)	*(c)*	(1979,80)	80	12/65	2.3
October		60	52	76	9	456	(1972)	*(c)*	(1948)	136	25/49	1.2
November		60	55	99	10	413	(1981)	Nil	(1842)	143	8/66*	0.5
December		62	57	130	12	441	(1942)	9	(1865)	168	28/71*	0.3
	Totals	..	..	**1,151**	**123**	..		..		..	..	**20.0**
Year	**Averages**	**66**	**53**	..	..	..		..		..	..	..
	Extremes	..	..	..	..	**1,026**	**(2/1893)**	**Nil**	**(Various)**	**465**	**21/1/1887**	..

(a) 1841 and 1951. *(b)* 1862, 1869, 1880 and 1977. *(c)* Less than 1 mm.
NOTE: Figures such as 21/87*, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA
(Lat. 34° 56′ S., Long. 138° 35′ E. Height above M.S.L. 43 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

			Wind (height of anemometer 22 metres)							
					Prevailing direction					
Month		*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*9 a.m.*	*3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record		121	*(c)*23	63	*(d)*	*(d)*	*(e)*12	105	45	62
January		1,013.2	12.8	116	SW	SW	254	1.5	3	11.9
February		1,014.3	12.1	106	SW	SW	216	1.1	3	10.8
March		1,017.2	11.4	126	NE	SW	180	0.8	4	10.7
April		1,019.9	11.4	130	NE	SW	120	1.0	6	6.7
May		1,020.1	11.3	113	NE	WSW	79	1.0	7	4.5
June		1,019.9	11.6	108	NE	NNW	56	0.9	7	3.8
July		1,020.8	11.8	148	NE	NNW	60	0.8	8	3.5
August		1,019.0	12.8	121	NE	WSW	78	1.1	6	4.6
September		1,017.7	13.2	111	NE	W	110	1.3	6	5.5
October		1,016.0	13.6	121	NE	SW	164	1.9	6	5.6
November		1,015.0	13.9	130	SW	WSW	196	2.0	5	6.5
December		1,013.3	13.5	121	W	SW	242	1.5	4	8.7
	Totals	..	..	..	..	..	**1,751**	**14.9**	**65**	**82.6**
Year	**Averages**	**1,017.1**	..	..	**NE**	**SW**	..	..	..	..
	Extremes	..	..	**148**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Records of cup anemometer. *(d)* 1887–1977. *(e)* Class A Pan.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA — *continued*
(Lat. 34° 56′ S., Long. 138° 35′ E. Height above M.S.L. 43 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sun-shine*
No. of years of record	122	122	122	125		125		119		95
January	29.5	16.4	23.0	47.6	12/39	7.3	21/84*	1.8	3/77	10.0
February	29.3	16.6	23.0	45.3	12/99*	7.5	23/18	2.1	23/26	9.3
March	26.8	15.1	21.0	43.6	9/34	6.6	21/33	0.1	21/33	7.9
April	22.7	12.6	17.7	37.0	5/38	4.2	15/59*	–3.5	30/77	6.0
May	18.7	10.3	14.5	31.9	4/21	*(a)*1.5	22/85	–3.6	19/28	4.8
June	15.8	8.3	12.1	25.6	4/57	*(a)*–0.4	8/82	–6.1	24/44	4.2
July	15.0	7.3	11.1	26.6	29/75	0.0	24/08	–5.5	30/29	4.3
August	16.4	7.8	12.1	29.4	31/11	0.2	17/59*	–5.1	11/29	5.3
September	18.9	9.0	13.9	35.1	30/61	0.4	4/58*	–3.9	25/27	6.2
October	22.0	10.9	16.5	39.4	21/22	2.3	20/58*	–3.0	22/66	7.2
November	25.1	12.9	19.1	45.3	21/65*	4.9	2/09	–0.6	17/76	8.6
December	27.7	15.0	21.3	45.9	29/31	6.1	*(b)*	–1.0	19/76	9.4
Year Averages	**22.3**	**11.9**	**17.1**	..	..	..	..	..	..	**6.9**
Year Extremes	..	..	..	**47.6**	**12/1/39**	**–0.4**	**24/7/08**	**–6.1**	**24/6/44**	

(a) Recorded at Kent Town. *(b)* 16/1861 and 4/1906.
NOTE: Figures such as 12/39, 21/84*, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century.

HUMIDITY, RAINFALL AND FOG

	Rel. hum (%)		*Rainfall (millimetres)*									
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	122	111	140	140	140		140		140		77
January	42	34	20	4	84	(1941)	Nil	*(a)*	58	2/89*	0.0
February	45	35	21	4	155	(1925)	Nil	*(a)*	141	7/25	0.0
March	49	39	24	5	117	(1878)	Nil	*(a)*	89	5/78*	0.0
April	58	47	44	9	154	(1971)	Nil	(1945)	80	5/60*	0.0
May	69	57	68	13	197	(1875)	3	(1934)	70	1/53*	0.4
June	76	64	72	15	218	(1916)	6	(1958)	54	1/20	1.1
July	77	64	66	16	160	(1890)	10	(1899)	44	10/65*	1.3
August	71	58	61	15	157	(1852)	8	(1944)	57	19/51*	0.6
September	62	52	51	13	148	(1923)	7	(1951)	40	20/23	0.2
October	53	45	44	11	133	(1949)	1	(1969)	57	16/08	0.0
November	46	39	31	8	113	(1839)	1	(1967)	75	12/60	0.0
December	43	36	26	6	101	(1861)	Nil	(1904)	61	23/13	0.0
Year Totals	..	..	**528**	**119**		..		..	..	..	**3.6**
Year Averages	**58**	**48**	..	..		..		..	..	..	..
Year Extremes	..	..	..	..	**218**	**(6/1916)**	**Nil**	***(b)***	**141**	**7/2/25**	..

(a) Various years. *(b)* December to April, various years.
NOTE: Figures such as 2/89*, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.
In February, 1977, the Adelaide Regional Office of the Bureau of Meteorology moved from West Terrace to Kent Town. Averages presented is this table are calculated from the observations recorded at West Terrace. Extremes recorded at Kent Town are marked.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA
(Lat. 31° 57′ S., Long. 115° 51′ E. Height above M.S.L. 19.5 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)	Wind (height of anemometer 22 metres)				Mean amount evaporation (mm)	Mean No. days thunder	Mean No. cloudy days (a)	Mean No. clear days (b)
		Average (km/h)	Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.				
No. of years of record	94	46	68	47	47	(c)12	82	45	46
January	1,012.6	17.5	81	E	SW	285	0.9	2	14
February	1,013.0	17.2	113	E	SW	242	0.7	2	13
March	1,015.2	16.2	113	E	SW	213	0.7	2	12
April	1,017.9	13.7	130	E	SW	132	0.9	5	9
May	1,017.9	13.5	119	NE	SW	94	1.7	6	6
June	1,017.6	13.5	129	NE	NW	69	1.8	7	5
July	1,018.8	14.2	137	NE	NW	75	1.5	6	5
August	1,018.8	15.1	156	NE	W	87	1.3	5	6
September	1,018.4	15.1	109	E	SW	118	0.7	4	8
October	1,017.0	16.1	105	E	SW	173	0.7	3	8
November	1,015.5	17.2	101	E	SW	216	0.8	3	9
December	1,013.4	17.7	103	E	SW	275	0.9	2	13
Totals	..	..	..	..	..	**1,979**	**12.6**	**47**	**108**
Year Averages	**1,016.4**	**15.6**	..	**E**	**SW**	..	..	..	..
Extremes	..	..	**156**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. (b) Mean number of days when cloud cover was less than or equal to one-eighth. (c) Class A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)				Extreme temperature (°Celsius)		Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest max.	Date	Lowest min.	Date	Lowest terrestrial min.	Date	
No. of years of record	85	85	85	85		85		84		81
January	29.6	17.7	23.5	44.7	12/78	9.2	20/25	4.2	20/25	10.5
February	29.9	17.9	23.7	44.6	8/33	8.7	1/02	4.3	1/13	10.1
March	27.8	16.6	22.2	41.3	14/22	7.7	8/03	2.6	(a)	9.0
April	24.5	14.1	19.2	37.6	9/10	4.1	20/14	–0.7	26/60	7.4
May	20.7	11.6	16.1	32.4	2/07	1.3	11/14	–3.9	31/64	5.9
June	18.2	9.9	14.1	28.1	5/75	1.6	22/55	–3.4	27/46	4.9
July	17.3	9.0	13.2	26.3	17/76	1.2	7/16	–3.8	30/20	5.3
August	17.9	9.1	13.5	27.8	21/40	1.9	31/08	–3.0	18/66	6.2
September	19.4	10.1	14.8	32.7	30/18	2.6	6/56	–2.7	(b)	7.2
October	21.2	11.5	16.3	37.3	29/67	4.2	6/68	–1.2	16/31	8.3
November	24.6	14.0	19.2	40.3	24/13	5.6	1/04	–1.1	6/71	9.7
December	27.3	16.2	21.7	42.3	31/68	8.6	29/57	3.3	29/57	10.6
Year Averages	**23.2**	**13.1**	**18.2**	..	..	..	..	..	..	**7.9**
Extremes	..	..	..	**44.7**	**12/1/78**	**1.2**	**7/7/16**	**–3.9**	**31/5/64**	

(a) 8/1903 and 16/1967. (b) 8/1952 and 6/1956.
NOTE: Figures such as 12/78, 20/25 indicate, in respect of the month of reference, the day and year of occurrence.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA — *continued*
(Lat. 31° 57′ S., Long. 115° 51′ E. Height above M.S.L. 19.5 metres)

HUMIDITY, RAINFALL AND FOG

	Rel. hum (%)		Rainfall (millimetres)								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	44	44	109	109	109		109		105		79
January	50	41	8	3	115	(1982)	Nil	*(a)*	55	21/82	0.2
February	53	40	12	3	166	(1955)	Nil	*(a)*	87	17/55	0.3
March	57	42	19	4	145	(1934)	Nil	*(a)*	77	9/34	0.6
April	65	49	45	8	149	(1926)	Nil	*(a)*	67	30/04	0.9
May	72	53	123	14	308	(1879)	14	(1964)	76	17/42	1.3
June	78	60	184	17	476	(1945)	55	(1877)	99	10/20	1.4
July	78	60	173	18	425	(1958)	61	(1876)	95	29/87	1.6
August	74	57	136	17	318	(1945)	12	(1902)	74	14/45	1.0
September	68	54	80	14	199	(1923)	9	(1916)	52	14/84	0.3
October	59	49	54	11	200	(1890)	1	(1969)	55	1/75	0.4
November	54	46	21	6	73	(1984)	Nil	(1891)	39	29/56	0.2
December	51	44	14	4	81	(1951)	Nil	*(a)*	47	3/51	0.2
Year Totals	..	..	**869**	**119**		..		..	..	..	**8.1**
Year Averages	**63**	**50**	..	..		..		..	..	..	..
Year Extremes	..	..	..	..	**476**	**(6/1945)**	**Nil**	*(a)*	**99**	**10/6/20**	..

(a) Various years.
NOTE: Figures such as 21/82, indicate, in respect of the month of reference, the day and year of occurrence. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: HOBART, TASMANIA
(Lat. 42° 53′ S., Long. 147° 20′ E. Height above M.S.L. 54 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

		Wind (height of anemometer 12 metres)							
Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record	99	76	96	45	45	*(c)*11	75	42	44
January	1,010.6	12.7	130	NNW	SE	142	1.0	10	1.9
February	1.012.9	11.7	121	NNW	SE	123	0.9	9	2.3
March	1,014.3	11.1	127	NW	SE	92	0.8	11	2.4
April	1,015.5	11.0	141	NW	NW	59	0.3	11	1.7
May	1,015.5	10.8	135	NW	NW	36	Nil	13	2.4
June	1,015.4	10.2	132	NW	NW	20	Nil	11	2.4
July	1,014.1	10.9	129	NNW	NW	24	Nil	10	2.0
August	1,012.8	11.1	140	NNW	NW	43	Nil	11	2.1
September	1,011.4	12.5	150	NNW	NW	59	0.1	10	1.5
October	1,010.5	12.6	140	NW	SE	90	0.4	12	1.0
November	1,009.9	12.8	135	NW	SE	121	0.6	12	1.3
December	1,009.4	12.5	122	NW	SE	144	0.8	12	1.1
Year Totals	..	..	..	..	..	**953**	**4.9**	**132**	**22.1**
Year Averages	**1,012.7**	**11.7**	..	**NW**	**SE**	..	..	..	..
Year Extremes	..	..	**150**	..	..	..	..	..	..

(a) Mean numbers of days when cloud equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Class A with Bird Guard.

CLIMATIC DATA: HOBART, TASMANIA — *continued*
(Lat. 42° 53′ S., Long. 147° 20′ E. Height above M.S.L. 54 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sunshine*
No. of years of record	101	101	101		101		101	99		75
January	21.5	11.7	16.5	40.8	4/76	4.5	9/37	–0.8	19/97 *	7.7
February	21.6	11.9	16.7	40.2	12/99*	3.4	10/80*	–2.0	—/87 *	6.9
March	20.0	10.7	15.2	37.3	13/40	1.8	31/26	–2.5	30/02	6.2
April	17.1	8.8	12.9	30.6	1/41	0.6	14/63	–3.9	—/86 *	5.0
May	14.9	6.8	10.5	25.5	5/21	–1.6	30/02	–6.7	19/02	4.2
June	11.8	5.1	8.5	20.6	1/07	–2.8	25/72	–7.7	24/63	3.8
July	11.5	4.4	7.9	21.0	30/75	–2.8	11/81	–7.5	1/78	4.2
August	12.9	5.1	9.1	24.5	26/77	–1.8	5/62	–6.6	7/09	4.9
September	14.9	6.3	10.6	28.2	29/73	–0.6	16/97*	–7.6	16/26	5.7
October	16.9	7.6	12.2	33.4	24/14	0.0	12/89*	–4.6	*(a)*	6.3
November	18.5	9.1	13.8	36.8	26/37	1.6	16/41	–3.4	1/08	6.9
December	20.2	10.6	15.4	40.7	30/97*	3.3	3/06	–2.6	—/86 *	7.2
Year Averages	**16.8**	**8.2**	**12.4**	..	..	..	..	..	..	**5.8**
Year Extremes	..	..	..	**40.8**	**4/1/1976**	**–2.8**	**11/7/81 and 25/6/72**	**–7.7**	**24/6/1963**	..

(a) 1/1886 and 1/1899

NOTE: Figures such as 4/76, 9/37, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century.

HUMIDITY, RAINFALL AND FOG

	Rel. hum (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	86	86	105	105	105		105		105		73
January	59	53	48	11	150	(1893)	4	(1958)	75	30/16	0.1
February	63	55	40	10	171	(1964)	3	(1914)	56	1/54	Nil
March	66	55	47	11	255	(1946)	7	(1943)	88	17/46	0.2
April	70	59	53	12	248	(1960)	2	(1904)	132	23/60	0.3
May	76	63	49	14	214	(1958)	4	(1913)	47	3/73	1.2
June	79	68	57	14	238	(1954)	2	(1979)	147	7/54	1.6
July	78	66	53	15	157	(1974)	4	(1950)	64	18/22	1.3
August	74	60	52	15	161	(1946)	8	(1892)	65	2/76	0.6
September	66	56	53	15	201	(1957)	10	*(a)*	156	15/57	0.2
October	62	56	63	16	193	(1947)	9	(1982)	66	4/06	0.1
November	60	55	56	14	188	(1885)	9	*(b)*	94	30/85*	0.1
December	59	58	57	13	206	(1985)	5	*(c)*	85	5/41	0.1
Year Totals	..	..	**628**	**160**		..		..	..	..	**5.8**
Year Averages	**68**	**59**	..	..		..		..	..	..	..
Year Extremes	..	..	..	..	**255**	**(3/1946)**	**2**	***(d)***	**156**	**15/9/57**	..

(a) 1891 and 1951. *(b)* 1919 and 1921. *(c)* 1897,1915 and 1931. *(d)* 4/1904 and 6/1979.

NOTE: Figures such as 30/16, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: DARWIN AIRPORT, NORTHERN TERRITORY
(Lat. 12° 25′ S., Long. 130° 52′ E. Height above M.S.L. 31 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

		Wind (height of anemometer 36 metres)							
Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record	95	45	*(c)*29	49	49	*(d)*13	45	45	45
January	1,006.4	9.7	100	W	NW	185	15	21	0
February	1,006.4	11.1	96	W	NW	162	11	19	0
March	1,007.6	9.3	107	W	NW	172	11	16	1
April	1,009.6	9.7	117	SE	E	189	4	9	4
May	1,010.9	10.5	63	SE	E	200	0	5	9
June	1,012.6	10.7	67	SE	E	189	0	3	13
July	1,013.1	9.7	61	SE	E	201	0	3	16
August	1,012.6	9.7	65	SE	NW	203	0	2	15
September	1,012.1	11.0	67	E	NW	232	1	2	11
October	1,010.6	10.9	96	NE	NW	254	5	4	6
November	1,008.7	9.1	117	E	NW	230	12	8	2
December	1,007.4	9.7	217	W	NW	205	15	15	0
Year Totals	..	..	..	..	..	**2,422**	**74**	**105**	**77**
Year Averages	**1,009.8**	**10.1**	..	**SE**	**NW**	..	..	..	..
Year Extremes	..	..	**217**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Several incomplete years. *(d)* Class A Pan.

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sunshine*
No. of years of record	45	45	45	*(a)*100		*(a)*100				31
January	31.7	24.7	28.2	37.8	2/82*	20.0	20/92*	..	..	5.6
February	31.4	24.6	28.0	38.3	20/87*	17.2	25/49	..	..	5.9
March	31.8	24.4	28.1	38.9	*(b)*	19.2	31/45	..	..	6.6
April	32.6	23.9	28.3	40.0	7/83*	16.0	11/43	..	..	8.7
May	31.9	21.9	26.9	39.1	8/84*	14.2	28/67	..	..	9.5
June	30.4	19.8	25.1	39.0	17/37	12.1	23/63	..	..	9.9
July	30.3	19.2	24.8	36.7	17/88*	10.4	29/42	..	..	10.1
August	31.2	20.6	25.9	37.0	30/71*	13.6	11/63	..	..	10.2
September	32.4	23.0	27.7	38.9	20/82*	16.7	9/63	..	..	9.8
October	33.0	24.9	29.0	40.5	17/92*	19.4	8/66	..	..	9.4
November	33.1	25.2	29.2	39.6	9/84*	19.3	4/50	..	..	8.4
December	32.5	25.2	28.9	38.9	20/82*	18.3	4/60	..	..	7.2
Year Averages	**31.9**	**23.1**	**27.5**	..	..	..	..	..	..	**8.4**
Year Extreme	..	..	..	**40.5**	**17/10/1892**	**10.4**	**29/7/1942**	..	..	..

(a) Years 1882–1941 at Post Office; 1942–1981 at Aerodrome; 1967–1973 at Regional office; sites not strictly comparable. *(b)* 26/1883 and 27/1883.

NOTE: Figures such as 2/82*, 20/92*, indicate, in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA DARWIN AIRPORT, NORTHERN TERRITORY — *continued*
(Lat. 12° 25′ S., Long. 130° 52′ E. Height above M.S.L. 31 metres)

HUMIDITY, RAINFALL AND FOG

	Rel. hum (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	41	41	86*(a)*	86*(a)*	86*(a)*		86*(a)*		48		45
January	82	70	393	19	708	(1896)	68	(1906)	205	23/81	Nil
February	84	72	330	18	717	(1956)	22	(1959)	250	18/55	Nil
March	83	67	258	16	556	(1898)	21	(1911)	241	16/77	Nil
April	75	52	103	7	603	(1891)	1	(1897)	143	4/59	Nil
May	67	43	14	1	261	(1882)	Nil	*(b)*	90	18/87	Nil
June	63	39	3	1	39	(1902)	Nil	*(b)*	30	16/73	Nil
July	64	38	1	Nil	65	(1900)	Nil	*(b)*	10	20/55	1
August	68	41	2	Nil	76	(1870)	Nil	*(b)*	80	22/47	1
September	71	48	13	2	59	(1900)	Nil	*(b)*	71	21/42	Nil
October	71	53	52	5	233	(1954)	Nil	*(b)*	96	25/69	Nil
November	74	59	124	10	399	(1938)	11	(1870)	82	17/44	Nil
December	77	65	242	14	569	(1910)	25	(1934)	277	25/74	Nil
Total	..	..	**1,535**	**93**		..		..	..	..	**2**
Year Averages	**73**	**54**	..	..		..		..	..	..	..
Extremes	..	..	..	..	**717**	**(2/56)**	**Nil**	**(c)**	**277**	**25/12/1974**	..

(a) Darwin Post Office. *(b)* Various years. *(c)* May to October. Various years.
NOTE: Figures such as 23/81, indicate, in respect of the month of reference, the day and year of occurrence. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY
(Lat. 35° 19′ S., Long. 149° 11′ E. Height above M.S.L. 577 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

		Wind (height of anemometer 10 metres)							
				Prevailing direction					
Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*9 a.m.*	*3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record	35	*(c)*23	47	51	51	*(d)*20	47	47	47
January	1,012.1	6.1	121	NW	NW	259	3.9	8	7.3
February	1,013.8	5.3	104	SE	NW	205	3.5	8	6.1
March	1,016.1	4.7	111	SE	NW	172	1.9	9	6.8
April	1,018.9	4.2	106	NW	WNW	109	1.1	7	6.7
May	1,019.9	4.5	104	NW	NW	70	0.5	9	6.6
June	1,020.9	4.2	96	NW	NW	48	0.2	10	6.2
July	1,020.4	4.9	102	NW	NW	53	0.1	8	7.1
August	1,018.5	5.6	113	NW	NW	79	0.8	8	6.7
September	1,017.4	6.0	107	NW	NW	110	1.5	8	7.6
October	1,015.1	6.4	121	NW	NW	157	2.5	9	5.9
November	1,012.7	6.6	128	NW	NW	195	3.5	9	5.1
December	1,011.0	6.8	106	NW	NW	261	3.7	8	6.7
Totals	..	..	..	..	..	**1,718**	**23.2**	**101**	**78.8**
Year Averages	**1,016.4**	**5.4**	..	**NW**	**NW**	..	..	..	**6.6**
Extremes	..	..	**128**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Recorded at Yarralumla, where a cup anemometer was installed up to 1980. *(d)* Class A Pan.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY — *continued*
(Lat. 35° 19′ S., Long. 149° 11′ E. Height above M.S.L. 577 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sunshine*
No. of years of record	47	47	47		47		47		36	12*(a)*
January	27.7	12.9	20.3	41.4	31/68	1.8	1/56	–0.4	1/56	9.7
February	26.9	12.9	19.9	42.2	1/68	3.0	16/62	–0.5	9/80	9.3
March	24.4	10.7	17.5	36.5	8/83	–1.1	24/67	–4.0	*(b)*	7.8
April	19.6	6.5	13.1	32.6	*(c)*	–3.6	*(d)*	–8.3	24/69	7.3
May	15.1	2.9	9.0	24.5	10/67	–7.5	30/76	–11.0	17/79	5.5
June	12.0	0.8	6.4	20.1	3/57	–8.5	8/57	–13.4	25/71	5.4
July	11.1	–0.3	5.4	19.7	29/75	–10.0	11/71	–15.1	11/71	5.7
August	12.8	0.8	6.8	24.0	30/82	–7.8	6/74	–13.0	3/79	6.7
September	15.9	2.9	9.4	28.6	26/65	–6.4	10/82	–10.7	10/82	7.3
October	19.1	5.9	12.5	32.7	13/46	–3.3	4/57	–7.0	1/82	8.3
November	22.5	8.4	15.5	38.8	19/44	–1.8	28/67	–6.3	28/67	8.9
December	26.0	11.1	18.5	38.8	21/53	1.1	18/64	–3.9	18/64	9.3
Year **Averages**	**19.4**	**6.3**	**12.9**	..	..	..	..	..	..	**7.6**
Extremes	..	..	..	**(*e*)42.2**	**1/2/68**	**–10.0**	**11/7/71**	**–15.1**	**11/7/71**	..

(a) Composite of Airport and city. *(b)* 30/58 and 24/67. *(c)* 12/68 and 4/86. *(d)* 27 and 28/78. *(e)* 42.8 recorded at Acton on 11/1/39.

NOTE: Figures such as 31/68, 1/56, indicate, in respect of the month of reference, the day and year of occurrence.

HUMIDITY, RAINFALL AND FOG

	Rel. hum (%)		Rainfall (millimetres)								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	47	47	47	47	47		47		47		47
January	60	34	60	8	185	(1984)	1	(1947)	95	12/45	1.0
February	66	39	57	7	148	(1977)	Nil	(1968)	69	20/74	1.0
March	68	41	54	7	312	(1950)	1	(1954)	92	21/78	2.7
April	75	46	50	8	164	(1974)	1	(1980)	75	2/59	4.1
May	81	55	48	9	150	(1953)	Nil	(1982)	96	3/48	7.8
June	84	60	37	9	126	(1956)	4	(1979)	45	25/56	8.1
July	84	58	39	10	104	(1960)	4	*(a)*	35	10/57	7.8
August	78	53	49	12	156	(1974)	7	(1944)	48	29/74	5.2
September	72	49	52	11	151	(1978)	6	(1946)	43	8/78	3.9
October	65	47	69	11	161	(1976)	2	(1977)	105	21/59	3.0
November	60	40	62	9	135	(1961)	Nil	(1982)	68	19/86	1.3
December	57	34	49	8	215	(1947)	Nil	(1967)	87	30/48	0.7
Year **Totals**	..	..	**626**	**109**		..		..	..	..	**46.6**
Averages	**71**	**46**	..	..		..		..	..	..	..
Extremes	..	..	..	..	**312**	**(3/50)**	**Nil**	***(b)***	**105**	**21/10/59**	..

(a) 1970 and 1982. *(b)*12/67, 2/68, 5/82 and 11/82.

NOTE: Data shown in the above tables relate to the Canberra Airport Meteorological Office, except where otherwise indicated, and cover years up to 1987.

Figures such as 12/45, indicate, in respect of the month of reference, the day and year of occurrence.

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6

DEMOGRAPHY

For an historical perspective of Australia's demographic characteristics *see Year Book* No. 7.

The principal source of demographic data is the Census, which in recent times has been conducted at five-yearly intervals. The most recent was in 1986. Compulsory registration of births, deaths and marriages also provides valuable information, as does information compulsorily supplied by incoming and outgoing overseas travellers. In addition various surveys are conducted from time to time on specific topics. Divorce data are compiled from court records; administrative records provide data on other aspects such as refugees, interstate migration etc.

Two important pieces of Government legislation in recent times which have had bearing on demographic matters were the repeal in 1967 of the provision in section 127 of the Constitution requiring the exclusion of Aboriginals in reckoning the numbers of people in the population, and the passing of the *Family Law Act 1975* which provided for a single ground for divorce — irretrievable breakdown of marriage — and for nullity of marriage on the ground that the marriage is void.

THE POPULATION OF AUSTRALIA

Size and Growth

ESTIMATED RESIDENT POPULATION AND COMPONENTS OF GROWTH

Year ended 30 June	*Population ('000)*	*Annual rate of growth (per cent)*		
		Natural increase	*Net migration*	*Total*
1972	13,303.7	1.24	0.58	1.81
1973	13,504.5	1.09	0.43	1.51
1974	13,722.6	0.99	0.61	1.61
1975	13,893.0	0.91	0.33	1.24
1976	14,033.1	0.87	0.15	1.01
1977	14,192.2	0.82	0.41	1.13
1978	14,359.3	0.83	0.44	1.18
1979	14,515.7	0.80	0.38	1.09
1980	14,695.4	0.81	0.52	1.24
1981	14,923.3	0.83	0.81	1.55
1982	15,184.2	0.84	0.86	1.75
1983	15,393.5	0.85	0.48	1.38
1984	15,579.4	0.84	0.32	1.21
1985	15,788.3	0.82	0.47	1.34
1986	16,018.4	0.78	0.64	1.46
1987	16,263.3	0.79	0.74	1.53
1988	16,538.2	0.77	0.92	1.69
1989p	16,806.7	0.79	0.83	1.62

The estimated resident population at 30 June 1989 was 16.8 million, an increase of 1.6 per cent over the previous year. The total increase of 268,600 comprised 131,300 from natural increase and 137,300 from overseas migration. This was the second consecutive year in which overseas migration has been the major component of population growth, and only the third in the last two decades.

The 1970s were characterised by a declining rate of natural increase due to the falling birth rate. At the beginning of the 1980s however, the birth rate rose slightly before resuming its downward trend.

Net overseas migration gain, moderate for most of the seventies, increased sharply at the end of the decade following changes in migration intake targets and Australia's acceptance of a large number of Indo-Chinese refugees as settlers. Very high intakes were recorded in 1980–81 and 1981–82, after which they fell back to previous levels. In the latter half of the 1980s there has been a resurgence of overseas migration gains including growing numbers from New Zealand.

Throughout the last two decades overseas migration gains have been more volatile than natural increase and, because of their size, have set the pattern for trends in total population growth. As both natural increase and overseas migration declined, the total population growth rate dropped from 1.8 per cent at the beginning of the seventies, to 1.1 per cent by 1978–79. Then as overseas migration gains recovered, the growth rate rose. By 1981–82 it was back to 1.8 per cent. The subsequent slump in migration intake, however, resulted in lower total growth rates until the recent resurgence which has led to a population growth rate of 1.7 per cent in 1987–88 and a preliminary rate of 1.6 per cent for 1988–89.

Population Distribution

Most of the Australian population is concentrated in two widely separated coastal regions. By far the largest of these, in terms of area and population, lies in the south-east, stretching in an unbroken crescent from South Australia through Victoria, Tasmania and New South Wales to Queensland. The smaller of the two regions is in the south-west of Western Australia. Neither region ever extends inland by more than two or three hundred kilometres. They are separated by two to three thousand kilometres of sparsely populated country which makes up about three-quarters of the total land area. It comprises the whole of the Northern Territory and parts of all five mainland States.

In both coastal regions the population is further concentrated into capital cities, other major cities and towns. In June 1988, 70.6 per cent of the Australian population lived in the combined State and Territory capitals (including the national capital) and five other major cities of 100,000 or more persons (capital city statistical divisions and statistical districts). The very low population density figures for Australia (2 persons per square kilometre) mask this pattern of population distribution.

URBAN–RURAL DISTRIBUTION OF POPULATION AT SELECTED CENSUS DATES AUSTRALIA(a)

(per cent(b))

Census year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
URBAN									
1921	67.8	62.3	52.1	60.0	59.3	50.5	36.2	—	62.1
1947	71.9	71.0	59.7	69.4	64.6	58.9	23.4	89.7	68.7
1954	82.6	81.3	73.0	74.5	71.0	65.9	65.9	93.3	78.7
1961	85.1	84.8	75.9	78.8	73.2	70.4	39.6	96.0	81.7
1966	86.4	85.5	76.4	82.4	75.7	70.3	53.4	96.1	82.9
1971	88.6	87.7	79.4	84.6	81.5	74.2	64.1	97.8	85.6
1976	88.7	87.9	80.2	84.9	83.5	74.9	66.4	98.4	86.0
1981	88.2	87.8	79.1	84.9	84.6	75.1	74.2	99.0	85.7
1986	87.9	88.1	78.9	84.6	84.7	74.5	72.0	99.1	85.4
RURAL									
1921	31.6	37.3	47.5	39.4	39.1	49.2	62.1	99.7	37.4
1947	27.9	28.9	40.1	30.3	34.9	40.9	75.4	10.4	31.1
1954	17.2	18.4	26.8	25.2	28.7	33.9	32.7	6.7	21.0
1961	14.6	15.0	24.0	20.8	26.4	29.4	59.9	4.0	18.1
1966	13.4	14.4	23.5	17.5	23.9	29.6	46.1	3.9	16.9
1971	11.3	12.2	20.4	15.3	18.2	25.7	35.4	2.2	14.3
1976	11.1	12.1	19.7	15.0	16.3	24.9	33.0	1.6	13.9
1981	11.8	12.1	20.8	15.1	15.3	24.8	25.3	1.0	14.2
1986	12.0	11.9	21.0	15.3	15.0	25.4	27.8	0.9	14.5

(a) Census counts by State of enumeration. Excludes full-blood Aboriginals prior to 1961. *(b)* Urban and rural proportions do not add up to 100 per cent as the proportion of migratory population is not included.

With the continuing development of urban industrialisation in the 20th century, capital cities have been the consistent choice for settlement of the majority of overseas immigrants, as well as receiving centres in the general internal trend towards rural to urban migration which persisted until recent times. This trend towards increasing urbanisation continued until the mid 1970s, after which a slight decline has been recorded. At the 1986 Census 85.4 per cent of the population lived in urban areas. Between the 1976 and 1986 Censuses, the proportion of the population living in rural areas actually increased from 13.9 per cent to 14.5 per cent, while the proportion of State populations living in the capital cities of Sydney, Melbourne and Brisbane declined slightly. Parallel with this has been an emerging trend since the 1970s towards selective rapid growth of smaller coastal towns in Queensland and New South Wales which have favoured the development of retirement, recreation and tourist amenities.

Australia's two dominant population centres—Sydney (3.6 million) and Melbourne (3.0 million)—both in the south-east, accounted for 39.9 per cent of the total population in June 1988. The next largest city is Brisbane (1.2 million). Sydney and Melbourne have traditionally been the favoured ports of entry for overseas arrivals and are the capitals of the two most populous States—New South Wales and Victoria respectively. In these and every other State and Territory the capital city is the largest population centre. Most capitals are many times the size of the next largest town. All capitals, with the exception of the national capital (Canberra) are located on the coast.

ESTIMATED RESIDENT POPULATION OF CAPITAL CITIES, AUSTRALIA

	1971	*1976*	*1981*	*1986*	1987	1988
			POPULATION (PERSONS)			
Sydney	2,935,937	3,143,750	3,279,500	3,472,700	3,531,000	3,596,000
Melbourne	2,503,022	2,723,700	2,806,300	2,931,900	2,965,600	3,002,300
Brisbane	869,579	1,000,850	1,096,200	1,196,000	1,215,300	1,240,300
Adelaide	842,693	924,060	954,300	1,003,800	1,013,000	1,023,700
Perth	703,199	832,760	922,040	1,050,400	1,083,400	1,118,800
Hobart	153,216	164,400	171,110	179,000	179,600	179,900
Darwin	38,885	44,232	56,478	74,800	75,300	72,900
Canberra *(a)*	159,003	226,450	246,500	281,000	289,000	297,300
(b)	142,925	206,550	226,450	257,850	265,020	272,500
Total (a)	**8,205,534**	**9,060,202**	**9,532,428**	**10,189,600**	**10,352,200**	**10,531,200**
		PROPORTION OF STATE POPULATION (PER CENT)				
Sydney	63.8	63.4	62.7	62.8	62.9	63.1
Melbourne	71.5	71.5	71.1	70.1	70.5	70.4
Brisbane	47.6	47.8	46.7	45.6	45.4	45.2
Adelaide	71.8	72.5	72.3	72.6	72.7	72.7
Perth	68.2	70.7	70.9	72.0	72.2	72.4
Hobart	39.2	39.9	40.1	40.1	40.1	40.1
Darwin	45.0	45.0	46.1	48.4	48.1	46.8
Canberra *(b)*	99.2	99.4	99.5	99.6	99.6	99.6
Total	**64.3**	**64.6**	**63.9**	**63.6**	**63.7**	**63.7**

(a) Canberra Statistical District. *(b)* Excluding Queanbeyan.

After New South Wales and Victoria, which had populations of 5.8 million and 4.3 million respectively at 30 June 1989, the State populations were, in order of size, Queensland (2.8 million), Western Australia (1.6 million), South Australia (1.4 million), Tasmania (0.5 million), the Australian Capital Territory (0.3 million) and the Northern Territory (0.2 million). The capital city of the Northern Territory, Darwin, is the major population centre outside the south-eastern and south-western coastal regions. Its population in 1988 was 73,000.

ESTIMATED RESIDENT POPULATION OF AUSTRALIA, STATES AND TERRITORIES

30 June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1976	4,959,588	3,810,426	2,092,375	1,274,070	1,178,342	412,314	98,228	207,740	14,033,083
1981	5,234,889	3,946,917	2,345,208	1,318,769	1,300,056	427,224	122,616	227,581	14,923,260
1986	5,531,526	4,160,856	2,624,595	1,382,550	1,459,019	446,473	154,421	258,910	16,018,350
1987	5,612,244	4,208,946	2,676,765	1,394,154	1,500,507	447,941	156,674	266,088	16,263,319
1988	5,701,525	4,261,945	2,743,765	1,408,255	1,544,806	448,457	155,866	273,534	16,538,153
1989p	5,761,919	4,315,170	2,830,198	1,423,337	1,591,077	450,956	156,147	277,926	16,806,730

Demographic factors currently acting on the relative size of the States are above-average rates of natural increase in Western Australia and the two Territories, above-average per capita overseas migration gains in New South Wales and Western Australia and high per capita interstate migration gains in Queensland, Western Australia and the Australian Capital Territory. State population growth rates in the year ended June 1988 were, in order of size, Western Australia (2.95 per cent), the Australian Capital Territory (2.80 per cent), Queensland (2.50 per cent), New South Wales (1.59 per cent), Victoria (1.26 per cent), South Australia (1.01 per cent), Tasmania (0.12 per cent) and in the Northern Territory a small negative rate of 0.52 per cent. The growth rate for Australia as a whole was 1.69 per cent.

Age/Sex Profile

The sex ratio of the population is expressed as the number of males per 100 females. This ratio varies by age: it is about 105 at birth, but higher male mortality gradually erodes the difference so that the numbers of males and females would tend to be about the same soon after age 50 in the absence of migration, and the sex ratio progressively declines thereafter with increasing ages. The overall sex ratio of the population has been declining since the 1950s as the overseas migration intake has become less male dominated. In 1989 there were 99.7 males to every 100 females.

SEX RATIOS, PERCENTAGE AGE DISTRIBUTION AND MEDIAN AGES OF THE POPULATION, AUSTRALIA

	Sex ratios (a)—				
30 June	*Ages 15–24*	*Ages 15–44*	*All ages*	*Aust. born*	*O'seas born*
1971	103.7	105.6	101.1	98.0	114.3
1976	103.2	104.3	100.4	97.8	109.5
1981	103.3	103.4	99.6	97.4	107.5
1986	104.1	103.1	99.8	98.1	106.2
1987	104.1	102.9	99.7	98.1	105.8
1988	104.1	102.8	99.7	98.1	105.5
1989	104.3	102.8	99.7	98.2	105.3
	Per cent of population aged—				
30 June	*0–14*	*15–44*	*45–64*	*65+*	*Median ages(b)*
1971	28.7	43.0	20.0	8.3	27.5
1976	27.0	44.1	20.0	8.9	28.4
1981	25.0	46.1	19.2	9.7	29.6
1986	23.1	47.3	19.1	10.5	31.1
1987	22.6	47.6	19.0	10.7	31.3
1988	22.3	47.8	19.0	10.9	31.6
1989	22.1	47.9	19.0	11.0	31.9

(a) Males per 100 females. *(b)* The median age is the age at which half of the population is older and half is younger.

The age distribution of the population is shown in the form of an age-sex pyramid, comparing the years 1971 and 1989. The low birth rates of the depression years of the 1930s, the prolonged 'baby boom' from the end of World War II to the early 1960s, the declining birth rate of the 1970s and 1980s are all reflected in the profile.

The median age of the population at 30 June 1989 was 31.9 years. It has been rising consistently since the beginning of the 1970s as a result of the lower birthrates as well as lower mortality rates at most ages. The proportion of the population aged 65 years and over has risen from 8.3 per cent in 1971 to 11.0 per cent in 1989.

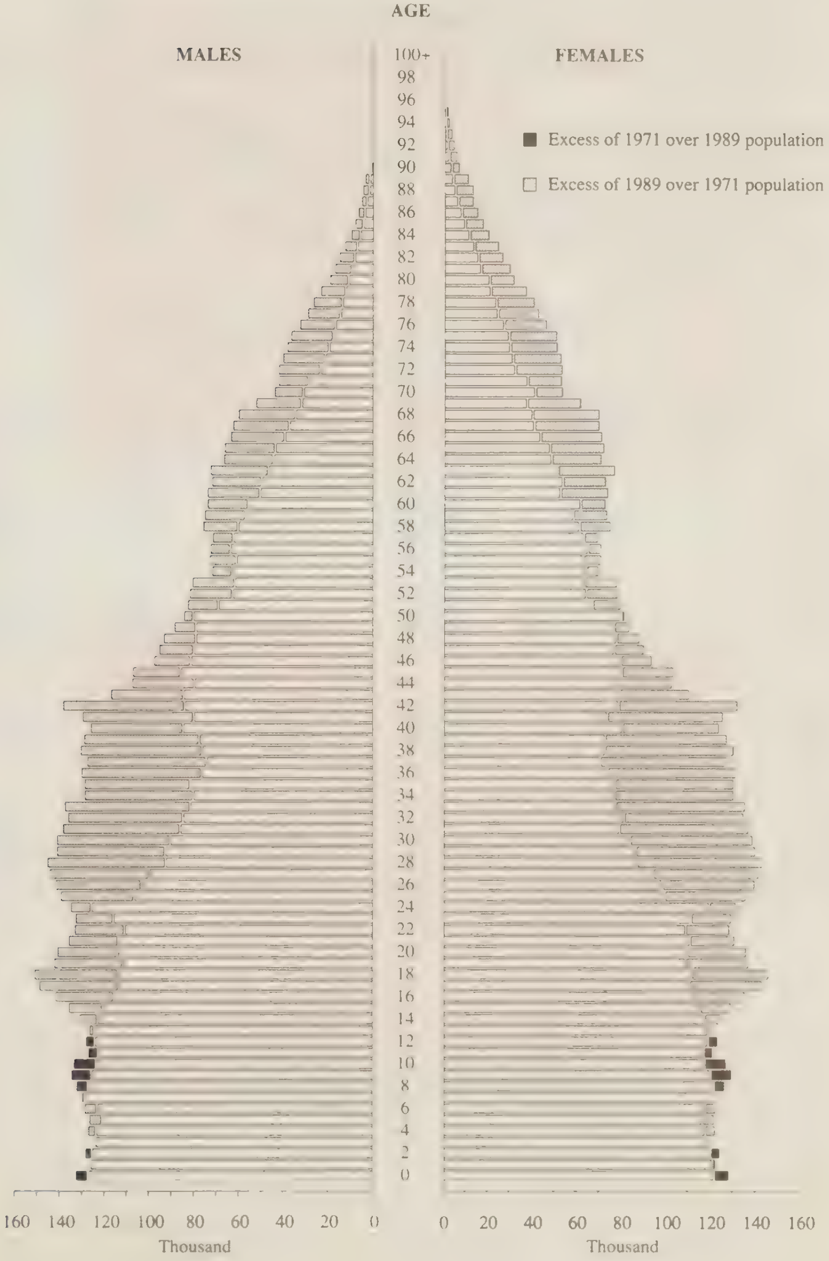
As a consequence of changes in the age distribution, the old age-dependency ratio (population aged 65 and over per 100 population of working ages 15–64) has increased from 13.2 in 1971 to 16.5 in 1989, while the child-dependency ratio (population aged 0–14 per 100 population of working ages) has declined sharply from 45.5 to 33.0 during the same period. The combined effect is that the total dependency ratio has declined from 58.8 in 1971 to 49.5 in 1989.

DEPENDENCY RATIOS (a): SELECTED YEARS 1971–89

Age group	*1971*	*1976*	*1981*	*1986*	*1987*	*1988*	*1989*
0–14 years	45.53	42.11	38.24	34.78	33.98	33.40	32.99
65 years and over	13.25	13.93	14.93	15.81	16.07	16.27	16.53
Total	**58.78**	**56.04**	**53.17**	**50.59**	**50.05**	**49.67**	**49.52**

(a) A dependency ratio is the ratio of the dependant population (aged 0–14 and 65 and over) per 100 population of working ages (15–64 years).

ESTIMATED RESIDENT POPULATION OF AUSTRALIA, 30 JUNE 1971 AND 1989 (PRELIMINARY)



Marital Status

Between 1976 and 1989 total population aged 15 and over increased by 27.8 per cent. During the same period, the population in various marital status categories increased by 49.8 per cent for never married, 14.9 per cent for married, 16.8 per cent for widowed and 188.9 per cent for divorced persons.

The disproportionate increase in the population of divorced persons is a reflection of the increase in divorce following introduction of the *Family Law Act in 1975*. However, since the beginning of the 1980s there has been a steady decline in the rate of growth of the divorced population.

Females exceed males in all categories excepting the never married. This arises principally from mortality differences in the higher age groups. The effect is particularly noticeable in the widowed category where females far out-number males.

In the never married category males exceed females because of higher sex ratios at younger ages and also because of the customary difference in age between bride and groom at first marriage.

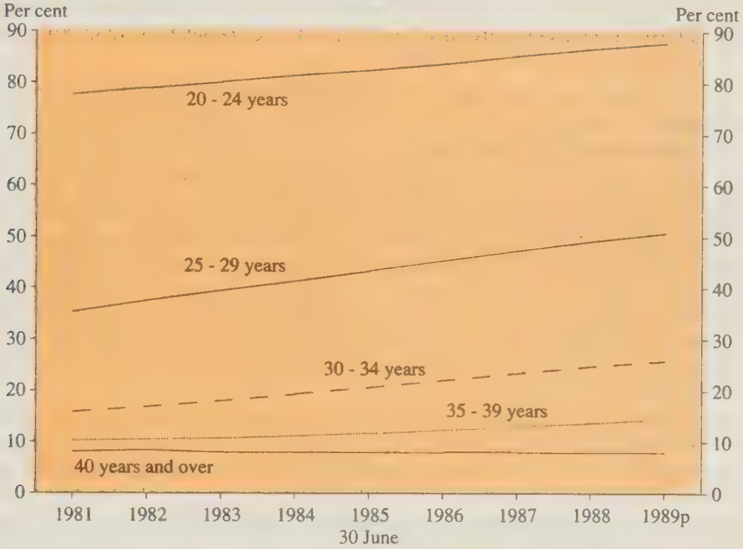
ESTIMATED RESIDENT POPULATION AGED 15 AND OVER BY MARITAL STATUS AND SEX, AUSTRALIA ('000)

	Never Married	*Married (a)*	*Widowed*	*Divorced*	*Total*
1976—					
Males	1,508.2	3,344.2	134.3	104.7	5,091.5
Females	1,094.8	3,354.9	576.1	128.8	5,154.5
Persons	2,602.9	6,699.3	710.4	233.4	10,246.0
1981—					
Males	1,739.0	3,477.7	139.1	187.9	5,543.7
Females	1,310.8	3,487.6	622.2	233.5	5,654.0
Persons	3,049.8	6,965.3	761.3	421.3	11,197.7
1986—					
Males	2,005.8	3,692.5	144.1	261.7	6,014.1
Females	1,534.2	3,704.3	654.3	322.0	6,214.7
Persons	3,540.0	7,396.7	798.4	583.7	12,318.8
1989p—					
Males	2,196.0	3,841.9	151.1	301.3	6,490.3
Females	1,702.1	3,854.1	678.7	372.9	6,607.8
Persons	3,898.1	7,695.9	829.9	674.3	13,098.1

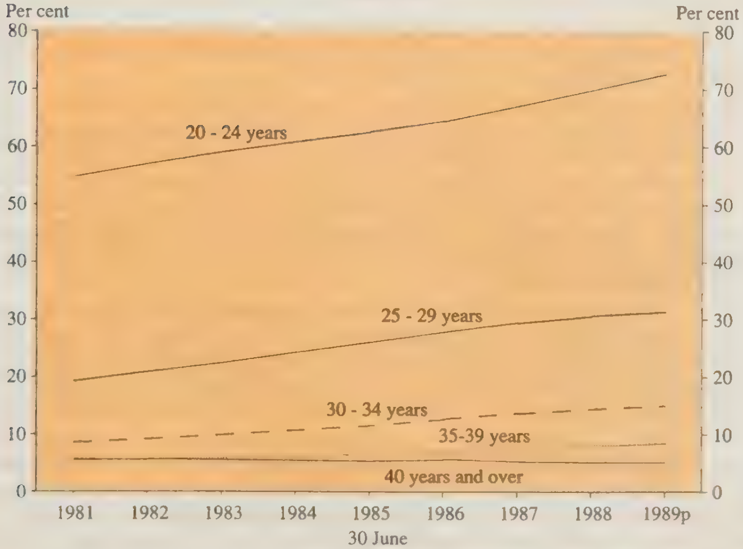
(a) Includes 'married but permanently separated'.

PROPORTION OF PERSONS NEVER MARRIED, 1981-1989, AUSTRALIA

MALES



FEMALES



Birthplace

At the 1947 Census the proportion of the population (excluding Aboriginals) born in Australia had risen to its highest level (90.2 per cent) since the beginning of European settlement and 97.9 per cent of the Australian population were either born in Australia or the United Kingdom, Ireland or New Zealand. The largest non-British overseas-born group, the Italians, comprised only 0.4 per cent of the population (33,600), while the number of overseas-born Chinese had fallen to 6,400.

Since 1947, not only has the decline of the overseas-born population been reversed, significant changes have taken place in the composition of that group. The progressive removal of immigration restrictions based on country of origin, race or colour between 1949 and 1973, together with the extension of assisted migration schemes to some non-British groups and refugees, have ensured a greater diversity of ethnic origin among the Australian population (*see also* section on Overseas Migration). The relative size of overseas-born groups from the United Kingdom, Eire and New Zealand combined, increased only slightly as a proportion of the total population between 1947 and 1989, from 7.7 per cent to 8.8 per cent. However, overseas-born persons from other countries increased from 2.1 per cent to 13.4 per cent during the same period. Overseas birthplace groups comprising 0.1 per cent or more of the total population—apart from the United Kingdom, Eire and New Zealand—increased in number from 4 in 1947 to over 30 in 1989.

The largest overseas-born group at the present time remains those born in the United Kingdom and Ireland, having risen to 1,208,300 or 7.2 per cent of the population in 1989. By comparison, the second largest overseas-born group, Italians, comprised only 1.6 per cent of the Australian population in 1989 (267,600). Seven of the first nine large overseas-born groups are European, the exceptions being New Zealand which comprised 1.6 per cent of the population and ranked second in 1989, and Vietnam which ranked seventh. Although Europe remains the region of origin of the majority of the overseas-born population, the number of European-born persons has declined as a proportion of the total Australian population from 16.5 per cent in 1976 to 14.1 per cent in 1989, while persons born in other regions have increased their share. Between 1976 and 1989, the European-born population increased by only 60,400 compared with an increase of 482,200 in the Asian-born (including the Middle East) group.

The proportion of the Australian population born in Asia has increased continually from 0.3 per cent in 1947 to 4.3 per cent in 1989. As recently as 1966, however, only two Asian birthplace groups had populations amounting to more than 0.1 per cent of the Australian population, namely China and India. By 1989 this number had increased to fourteen. Sources of the largest Asian-born populations in 1989 were Vietnam (108,270), Lebanon (70,640), Malaysia (69,880), Philippines (60,320), India (57,440), China (50,200) and Hong Kong (46,840), comprising 6.4, 4.2, 4.2, 3.6, 3.4, 3.0 and 2.8 per cent of the Australian population respectively.

In June 1989 the median age of the overseas-born population was 41.6 years, ten years older than the median (31.9 years) for the population as a whole. The median age of the Australian-born population was 28.4 years. Overseas-born population groups from recent source countries e.g. Lebanon, South-East Asia, South America and South Africa are noticeably younger than those from traditional sources — the United Kingdom and Europe.

At the 1986 Census, 77.6 per cent of the population was born in Australia. Of these, 74.9 per cent reported Australia as the birthplace of both their parents. This implies that 58.1 per cent of the total population of Australia are at least second generation Australians. A further 13.7 per cent of the Australian-born population (10.6 per cent of the total population) had one parent born in Australia. Conversely, 41.9 per cent of the total population were either born overseas or had at least one parent born overseas.

BIRTHPLACE OF PARENTS OF AUSTRALIAN–BORN PERSONS, AUSTRALIA, CENSUS 1986

Birthplace of parents	*Numbers*	*Percentage*
Both parents born in Australia	9,070,739	74.9
1 parent born in Australia, 1 born overseas or not stated	1,657,548	13.7
Other	1,382,169	11.4
Total	**12,110,456**	**100.0**

Citizenship

The grant of citizenship is controlled by the *Australian Citizenship Act 1948*. Prior to 26 January 1949, aliens who were naturalised became British subjects and, with the introduction of the Act, all such persons automatically became Australian citizens.

Citizenship may be acquired by birth in Australia provided that at the time of birth one of the parents is an Australian citizen or legal resident of Australia, by birth abroad to an Australian parent, or by grant of citizenship to a person resident in Australia under conditions prescribed in the Act. All persons are now eligible for the grant of Australian citizenship provided that they have resided in Australia for at least two years, are of good character, have an adequate knowledge of English and of the responsibilities and privileges of citizenship, and intend to reside permanently in Australia.

At the 1981 Census, 88.7 per cent of the population were Australian citizens, with 11.9 per cent of these being born overseas. At the 1986 Census the proportion of the population with Australian citizenship was identical to the 1981 level, but the share of those born overseas increased to 12.5 per cent.

COUNTRY OF CITIZENSHIP, AUSTRALIA, 1981, 1986

	Persons		*Percentage*	
Country	*1981*	*1986*	*1981*	*1986*
Australia—				
Born in Australia	11,393,861	12,110,456	78.2	77.6
Born overseas	1,537,212	1,726,642	10.5	11.1
Other	1,413,654	1,331,335	9.7	8.5
Not Stated	231,603	433,723	1.6	2.8
Total	**14,576,330**	**15,602,156**	**100.0**	**100.0**

Religion

Details on religious affiliation have been collected in all Australian censuses, however since the 1933 Census, it has been clearly stated on the census form that answering the question on religion is not obligatory. By 1986, 25.0 per cent of the population described themselves as either having 'no religion' or did not answer the question.

Census data show that the Australian population is predominantly Christian with the majority associating themselves with the two major groups, the Catholic Church and the Church of England (26.1 per cent and 23.9 per cent respectively at the 1986 Census).

MAJOR RELIGIOUS GROUPS, AUSTRALIA, SELECTED CENSUS DATES (per cent)

Year	*Church of England*	*Catholic*	*Other Christian*	*Total Christian*	*Non-Christian*	*Not stated or no religion*	*Total*
1971	31.0	27.0	28.2	86.2	0.8	13.1	100.0
1976	27.7	25.7	25.2	78.6	0.9	20.5	100.0
1981	26.1	26.0	24.3	76.4	1.4	22.3	100.0
1986	23.9	26.1	23.0	73.0	2.0	25.0	100.0

(*a*) Includes Protestant undefined.

The remainder of the Christian population, amounting to 23 per cent of the total population at the 1986 Census, is dispersed between several other groups, with only three denominations consisting of more than 2.0 per cent of the population: the Uniting Church (7.6 per cent), Presbyterian (3.6 per cent) and Orthodox (2.7 per cent).

There has been a slight increase in the proportion of persons of non-Christian religions since 1981, from 1.4 per cent to 2.0 per cent in 1986. At the 1986 Census, Muslims comprised 35.0 per cent of the non-Christian response, Hebrews 20.0 per cent and Buddhists 25.0 per cent.

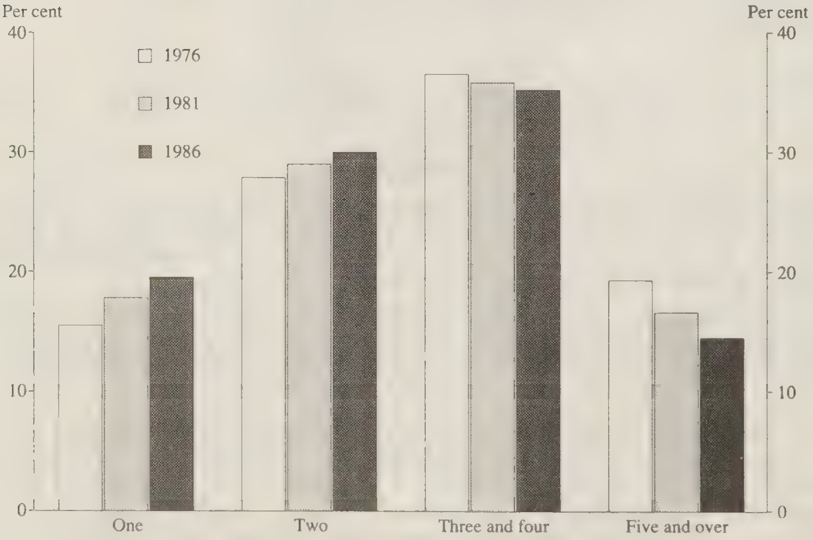
Households

The incidence of household formation in Australia has continued to exceed population growth rates, with the average number of persons per household declining from 3.3 in 1971 to 2.9 in 1986. Much of the decline in the number of persons per household can be attributed to reductions in completed family size and changing social attitudes. There has been continuing growth in one and two-person households, rising from 47.2 per cent of all households in 1981 to 49.5 per cent at the 1986 Census.

POPULATION IN PRIVATE HOUSEHOLDS, AUSTRALIA

Year	*Persons in private households*	*Private households*	*Persons per private household*
1971	12,155,386	3,670,554	3.31
1976	12,942,708	4,140,521	3.12
1981	13,918,445	4,668,909	2.98
1986	14,920,230	5,187,422	2.88

PROPORTION OF HOUSEHOLDS BY SIZE(a), AUSTRALIA



(a) Persons per household

Increases in the number of households have also been affected by a complex combination of factors at older ages. The proportion of the population aged 65 years and over has increased as a result of increases to life expectancy, while both completed family size and age at completion of child-bearing have generally declined. Thus, older families are likely to experience several years of 'empty nesting', that is, time lived in the household without dependants after children leave home. There has been a tendency for increasing numbers of older couples and older persons who are widowed, particularly females, to remain as separate households to a later age—with long-term cumulative affects on the total number of households.

Only a small proportion of households include more than one family, some 3 per cent at the 1981 Census, which declined further to 2.4 per cent at the 1986 Census. The 1986 Census indicated that 47.6 per cent of total families had no dependent children and 52.4 per cent did have dependent children. Among families with dependent children, 35.9 per cent had one child and 64.1 per cent had two or more dependent children. Single parent families comprised 7.9 per cent of total families and were mostly composed of parent and dependent children (76.3 per cent); the balance included an additional adult family member (23.7 per cent).

FAMILY TYPE AND COMPOSITION, AUSTRALIA, 1986

Family Type	*No.*	*Per cent*
Families without dependent children		
Couple	1,271,872	30.6
Couple and adult family member	449,208	10.8
Related adults	258,768	6.2
Families with dependent children		
Couple and 1 dependent child	403,298	9.7
Couple and 2 or more dependent children	1,072,968	25.8
Couple and 1 dependent child and adult family member	206,496	5.0
Couple and 2 or more dependent children and adult family member	171,230	4.1
Single parent and 1 dependent child	124,166	3.0
Single parent and 2 or more dependent children	123,016	3.0
Single parent and 1 dependent child and adult family member	48,054	1.2
Single parent and 2 or more dependent children and adult family member	28,935	0.7
Total families	**4,158,011**	**100.0**

VITAL STATISTICS

Registration of vital events, i.e. births, deaths and marriages, has been compulsory throughout Australia since 1856. The total number of these registrations is available for each year since the 1860s and more detailed information since the 1910s. The number of divorces has been published since 1891, but other details have been published on a consistent basis only since the 1950s.

Births

Current fertility levels in Australia are lower than at any time since records began. In 1988 the crude birth rate was 14.9 per 1,000 population and the total fertility rate was 1.84 per woman, showing a continuation of a long-term decline in fertility. Australia's current fertility rates, however, remain higher than in several other industrialised countries in Europe, North America and Japan.

CRUDE BIRTH RATES AND TOTAL FERTILITY RATES, LOW FERTILITY COUNTRIES

	Crude birth rate		*Total fertility rate (a)*	
Country	*1970*	*1980s*	*1970*	*1980s*
Australia	20.6	15.2 (1986)	2.86	1.87 (1986)
Canada	17.4	14.8 (1985)	2.26	1.63 (1985)
Denmark	14.4	10.8 (1986*p*)	1.97	1.44 (1985)
France	16.7	14.1 (1986*p*)	2.47	1.83 (1985)
Federal Republic of Germany	13.3	10.2 (1986*p*)	2.01	1.30 (1985)
Japan	18.8	11.9 (1985)	2.07	1.73 (1985)
New Zealand	22.1	16.3 (1986*p*)	3.16	1.96 (1986)
Norway	16.6	12.6 (1986*p*)	2.49	1.65 (1984)
Sweden	13.7	12.2 (1986*p*)	1.94	1.74 (1985)
Switzerland	15.8	11.7 (1986*p*)	2.09	1.51 (1985*p*)
United Kingdom	16.2	12.9 (1984)	2.38	1.79 (1985)
United States of America	18.2	15.7 (1985*p*)	2.46	1.81 (1984)

(a) The total fertility rate is the sum of the age-specific birth rates. It represents the number of children that would be born to a female who experienced, throughout her child-bearing life, the age specific rates for the years shown.
Source: United Nations *Demographic Yearbook 1986* New York.

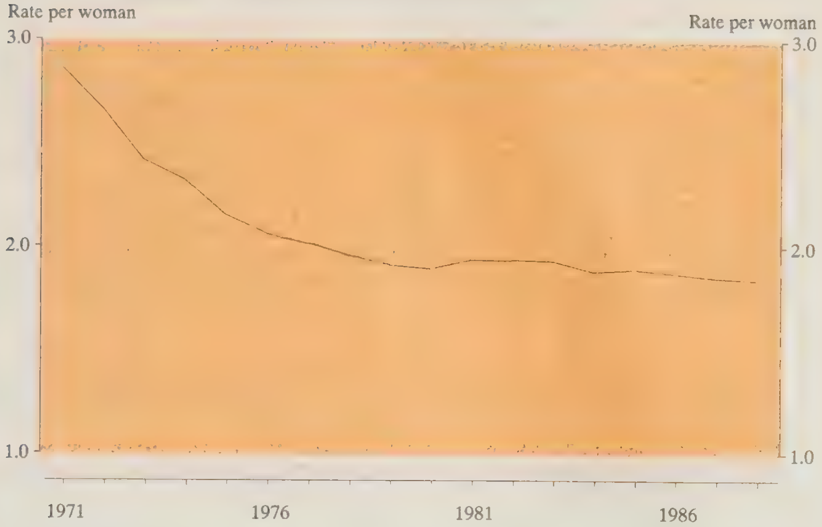
Despite an overall fertility decline, the number of births has shown an increasing trend during the 1980s because of increasing numbers of women of reproductive age. The number of births in 1988 (246.2 thousand) was the highest since 1973, though not as great as the record number of 276.4 thousand in 1971.

AGE-SPECIFIC BIRTH RATES AND TOTAL FERTILITY, AUSTRALIA

	Age group (years)							
Period	*15–19(a)*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49(b)*	*Total fertility*
AVERAGE ANNUAL RATES								
			—per '000 women—					per woman
1971–75	48.0	154.0	166.9	85.0	33.7	8.5	0.6	2.484
1976–80	30.7	116.4	143.9	73.8	23.8	4.8	0.3	1.968
1981–85 *(c)*	25.7	100.8	144.5	82.0	25.4	4.4	0.3	1.915
ANNUAL RATES								
			—per '000 women—					per woman
1981	28.2	107.5	145.2	77.6	24.5	4.5	0.3	1.938
1982	27.5	104.0	144.9	80.6	25.6	4.6	0.3	1.936
1983	26.6	102.7	145.9	81.5	25.0	4.4	0.2	1.931
1984	23.6	96.0	143.0	83.0	25.6	4.4	0.3	1.879
1985	22.5	94.1	143.4	87.2	25.4	4.4	0.2	1.891
1986	21.8	90.0	141.9	88.7	27.2	4.3	0.2	1.870
1987	20.6	85.2	139.8	90.6	28.9	4.8	0.3	1.851
1988	20.2	81.8	137.2	93.4	30.5	4.6	0.2	1.840

(a) Includes births to mothers aged less than 15. *(b)* Includes births to mothers aged 50 and over. *(c)* Rates are adjusted for late registrations of births in New South Wales in 1984.

TOTAL FERTILITY RATES, AUSTRALIA



MARRIED FEMALES UNDER 45 YEARS OF AGE AT TIME OF MARRIAGE: YEAR MARRIED AND TIMING OF FIRST NUPTIAL CONFINEMENT

Year of marriage	*Percentage of married females under 45 years of age at time of marriage*							*Number of brides aged under 45 years*
	Premaritally pregnant (b)	*Having the first nuptial confinement before the end of a given year of marriage duration (a)*						
		1	*2*	*3*	*4*	*5*	*10*	
	—cumulative per cent—							
1971	19.8	28.1	46.5	60.6	70.6	77.0	87.0	112,817
1972	18.0	25.5	43.7	57.9	68.0	74.9	86.2	109,007
1973	15.6	22.8	41.0	54.7	64.8	72.0	84.5	107,563
1974	13.4	20.6	38.0	51.5	61.7	69.0	82.4	105,759
1975	12.2	19.3	36.9	50.5	60.8	68.5	82.6	98,951
1976	10.9	18.0	35.0	47.5	57.2	64.5	76.2	103,108
1977	11.1	17.6	34.1	46.9	57.0	64.5	77.4	98,551
1978	11.3	17.7	34.6	47.8	57.8	65.1	77.7	96,859
1979	11.3	17.7	35.4	48.8	58.7	65.7	—	98,286
1980	11.5	17.9	35.7	48.9	58.6	65.5	—	103,019
1981	11.3	17.9	33.5	48.3	57.8	64.6	—	107,855
1982	10.4	16.8	33.7	46.0	55.3	61.8	—	111,295
1983	9.9	16.0	33.0	45.8	55.0	61.6	—	108,931
1984	10.1	16.6	34.8	48.1	57.8	—	—	102,785
1985	9.2	15.4	32.3	44.5	—	—	—	109,377
1986	8.3	15.0	31.6	—	—	—	—	108,442
1987	7.8	15.4	—	—	—	—	—	107,668

(a) Includes premarital pregnancies. (b) Premaritally pregnant comprises wives who delivered their first child within marriage duration of 0–7 completed months.

Women in the 1980s prefer to commence child-bearing later and complete their families earlier than previous generations. The proportion of first nuptial confinements occurring in the first two years of marriage is continuing to decline. In 1971 the proportion was 46.5 per cent, but in 1988 it had fallen to 31.6 per cent. This postponement of child-bearing is even more significant in the context of the rising median age at marriage (23.2 years in 1971 and 27.1 years in 1988).

In the 1970s, fertility declines became obvious across all age-groups, falling rapidly between 1971 and 1980, and marginally since then. This decline has been attributed to demographic, social, economic and attitudinal changes of the 1970s, which individually or collectively influenced fertility behaviour during this period. Between 1971 and 1988, the total fertility rate for all ages declined by 36 per cent. The largest declines in age-specific fertility rates occurred to younger women aged 15–29 years, in particular the 20–24 age group. Women in the 1980s are more likely to defer and restrict child-bearing to the middle range of their reproductive years. In 1971, 46.6 per cent of births occurred to women aged 15–24. By 1988, the corresponding figure was 27.3 per cent. The proportion of births occurring to women aged 25–34 in 1971 was 45.9 per cent, whereas in 1988 it was 63.7 per cent. Women in the 25–29 age group maintained the highest fertility rates.

Concurrent with the downward movement that has occurred in the levels of fertility, the family formation patterns of couples have changed. An increasing proportion of total births has now been occurring outside marriage, and for those occurring within marriage, concentration has been on the first and second order births.

Confinements resulting in ex-nuptial births have increased continually as a proportion of total confinements over the past two decades increasing from 9.3 per cent in 1971 to 19.0 per cent in 1988. The median age of ex-nuptial mothers has been lower than that at first nuptial confinement throughout the period and it seems likely that ex-nuptial births are predominantly first order births, though birth order data are not available for ex-nuptial births.

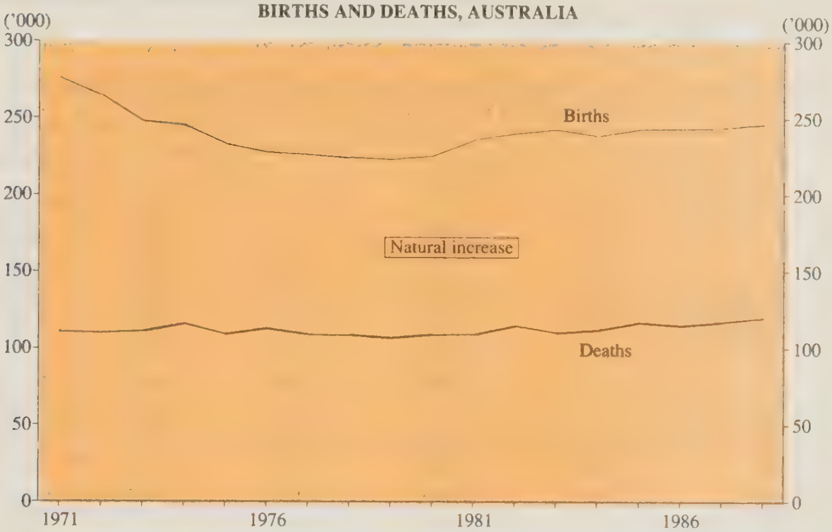
TOTAL CONFINEMENTS BY NUPTIALITY AND PREVIOUS ISSUE TO THE CURRENT MARRIAGE OF MOTHER (NUPTIAL BIRTHS), AUSTRALIA

		Married mothers with number of previous issue to the current marriage of—							
Period	*Ex-nuptial confinements*	*0*	*1*	*2*	*3*	*4*	*5 or more*	*Not stated*	*Total*
				ANNUAL AVERAGES					
1971–1975	24,299	88,120	74,641	36,914	15,216	6,006	5,765	12	250,973
1976–1980	24,851	77,877	69,291	34,288	11,119	3,332	2,451	15	223,224
1981–1985	34,248	82,279	70,089	34,399	11,354	3,093	1,918	103	237,483
				ANNUAL TOTALS					
1981	30,956	82,476	67,627	35,445	11,750	3,282	1,993	6	233,535
1982	32,679	83,300	69,963	34,670	11,631	3,193	2,016	—	237,452
1983	35,335	83,466	70,427	34,081	11,343	3,108	1,878	476	240,114
1984*(a)*	34,337	79,295	69,312	33,027	10,802	3,013	1,825	32	231,643
1985*(a)*	37,933	82,860	73,114	34,774	11,246	2,867	1,877	—	244,671
1986	40,580	80,563	70,017	33,937	10,955	2,904	1,723	20	240,699
1987	43,418	80,241	68,730	33,472	10,793	2,873	1,742	—	241,269
1988	46,293	79,841	68,432	33,419	10,650	2,856	1,699	3	243,193

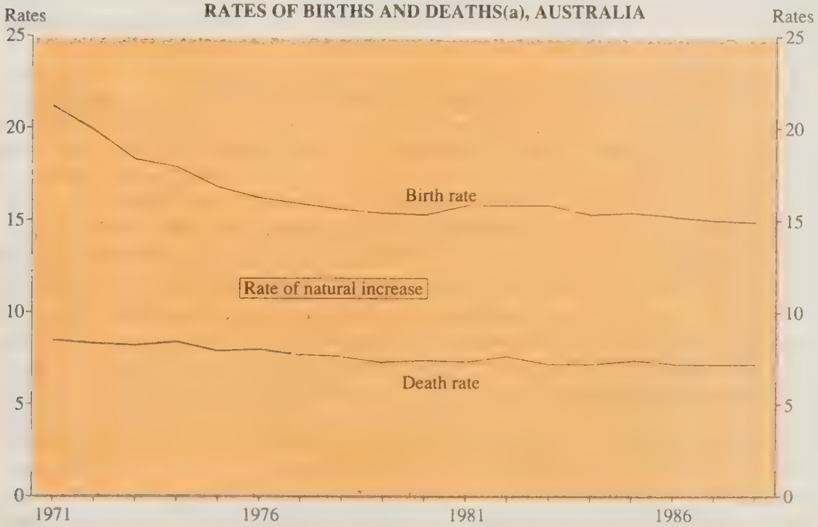
(a) These figures have been affected by late registration in New South Wales.

The proportion of females having three or more children in their marriage is continuing to decline. The proportion of nuptial confinements that produced a fourth or higher order birth has declined from 22.5 per cent in 1971 to 7.7 per cent in 1988. In the same year (1988) 75.3 per cent of nuptial confinements resulted in first or second children.

BIRTHS AND DEATHS, AUSTRALIA



RATES OF BIRTHS AND DEATHS(a), AUSTRALIA



(a) Per thousand mean population.

Deaths

In comparison with other countries, Australia ranks amongst those with the lowest mortality levels and the highest expectations of life.

EXPECTATION OF LIFE AT BIRTH AND INFANT MORTALITY RATES IN SELECTED LOW MORTALITY COUNTRIES, RECENT YEARS

	Infant mortality		*Life expectancy at birth*		
Country	*Rate*	*Year*	*Males*	*Females*	*Year*
Australia	8.7	1988	73.1	79.5	1988
Canada	7.9	p1985	71.9	79.0	1980–82
Denmark	7.7	1984	71.6	77.5	1984–85
England and Wales	(*a*)9.4	p1985	71.8	77.5	1983–85
Federal Republic of Germany	8.9	1985	71.2	77.8	1983–85
France	7.9	p1986	71.0	79.2	1983–85
Italy	10.9	1985	71.1	77.8	1981
Japan	5.5	1985	74.8	80.5	1985
Netherlands	8.1	p1986	72.9	79.8	1984–85
New Zealand	10.8	1985	71.0	76.8	1985
Sweden	5.9	p1986	73.8	79.9	1985
Switzerland	6.9	1986	73.5	80.0	1984–85
United States	10.3	p1986	71.2	78.2	1984

(*a*) Total United Kingdom.
Source: United Nations Demographic Yearbook, 1984 and 1986, New York.

The number of deaths in 1988 was 119,866, an increase of 2.3 per cent over the previous year which, in the context of the crude death rate, resulted in a slight increase from 7.21 to 7.25 per thousand population. Generally, however, the current trend is towards a levelling of the crude death rate following two decades of consistent falls.

Mortality trends, as measured by the crude death rate, are distorted by changes in the age structure of the population over time. Australian crude death rates standardised for age show a considerably greater decline in mortality levels since the early 1970s and instead of a current levelling off, a continuation of this decline. Using the age structure of the estimated resident population of persons as at 30 June 1981 as the standard, the adjusted death rate fell from 12.0 per thousand in 1971 to 8.5 per thousand in 1988 for males and from 7.3 to 4.9 per thousand for females during the same period.

The decline in death rates is a result of continuing improvements to community health care, public awareness of health issues and advances in medical science and technology.

In Australia, as in most other countries, females have lower death rates than males. Age-specific rates show this discrepancy occurring across all age groups. In 1988, for example, the female death rate in many age groups was about half that of males. The relative difference between death rates for males and females was greatest in the age group 15 to 24 years where in 1988 the female rate was about one-third that of males. The overall effect of these differences in death rates has been to increase the proportion of females in the older age groups of the population.

Concurrent with the decline in death rates over the last two decades has been a rise in life expectancy at birth, increasing for males from 67.9 years to 73.1 years between the periods 1970–1972 and 1988, and correspondingly for females from 74.6 years to 79.5 years. Female life expectancy at birth has exceeded that of males throughout the period, with the difference varying from 6 to 7 years. Contributing to the increase in life expectancy at birth is the reduction in infant mortality, falling from rates of 19.5 per thousand and 15.0 per thousand for males and females respectively in 1970–72 to 9.8 and 7.6 respectively in 1988.

AGE-SPECIFIC DEATH RATES BY SEX, AUSTRALIA
(per '000)

	Age group (years)																		
Period	*0*	*1–4*	*5–9*	*10–14*	*15–19*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50–54*	*55–59*	*60–64*	*65–69*	*70–74*	*75–79*	*80–84*	*85 and over*
									MALES										
Average annual rates—																			
1971–75	18.4	0.9	0.4	0.4	1.5	1.7	1.3	1.4	2.1	3.4	6.0	9.6	15.9	25.5	39.3	61.2	95.3	141.2	231.7
1976–80	13.6	0.7	0.3	0.4	1.4	1.7	1.4	1.3	1.9	3.0	5.2	8.6	13.8	22.2	35.3	54.2	87.7	127.9	210.7
1981–85*(a)*	11.0	0.6	0.3	0.3	1.2	1.5	1.3	1.3	1.5	2.4	4.1	7.2	12.2	19.2	31.1	49.4	78.0	119.1	205.6
Annual rates—																			
1981	11.4	0.6	0.3	0.3	1.3	1.5	1.3	1.2	1.7	2.6	4.6	7.9	13.0	19.8	32.3	52.0	80.2	121.2	208.1
1982	11.8	0.7	0.4	0.4	1.3	1.6	1.4	1.3	1.6	2.5	4.5	7.5	12.7	20.0	33.0	51.9	82.7	124.4	216.0
1983	10.5	0.6	0.3	0.3	1.1	1.5	1.4	1.2	1.4	2.3	3.9	7.3	12.2	18.9	30.7	47.8	76.9	115.8	201.4
1984*(a)*	10.4	0.6	0.2	0.3	1.0	1.5	1.1	1.3	1.4	2.4	3.7	6.7	11.7	18.7	29.8	48.2	75.3	114.1	195.8
1985*(a)*	11.3	0.6	0.3	0.3	1.1	1.6	1.3	1.3	1.4	2.2	3.7	6.6	11.4	18.5	29.5	47.1	74.7	119.4	205.1
1986	10.0	0.5	0.3	0.3	1.1	1.5	1.3	1.3	1.4	2.3	3.5	6.3	10.7	18.0	28.3	45.4	72.1	110.7	187.2
1987	10.0	0.5	0.2	0.3	1.0	1.5	1.3	1.3	1.5	2.0	3.5	6.1	10.9	17.2	27.9	45.3	71.2	111.2	190.9
1988	9.8	0.5	0.2	0.3	1.1	1.6	1.5	1.4	1.5	2.2	3.4	6.0	10.0	17.3	27.2	45.0	71.9	110.7	186.6
									FEMALES										
Average annual rates—																			
1971–75	14.0	0.7	0.3	0.2	0.6	0.5	0.6	0.8	1.3	2.1	3.5	5.2	8.0	12.2	19.4	33.1	57.3	97.4	187.9
1976–80	10.7	0.5	0.2	0.2	0.5	0.5	0.5	0.7	1.0	1.8	2.8	4.5	6.8	10.8	16.9	27.9	48.4	84.0	168.4
1981–85*(a)*	8.9	0.5	0.2	0.2	0.4	0.5	0.5	0.6	0.9	1.4	2.4	3.9	6.0	9.6	15.3	25.3	43.3	76.4	160.5
Annual rates—																			
1981	8.9	0.5	0.2	0.2	0.5	0.5	0.5	0.6	0.9	1.4	2.7	3.8	6.2	9.7	15.7	25.5	44.3	76.0	160.4
1982	9.1	0.5	0.2	0.2	0.4	0.5	0.5	0.5	0.8	1.5	2.5	4.2	6.2	10.1	16.0	25.7	45.1	79.3	170.4
1983	8.7	0.5	0.2	0.2	0.4	0.5	0.5	0.6	0.9	1.3	2.3	4.0	6.1	9.7	15.2	25.2	42.5	73.6	154.2
1984*(a)*	7.8	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.9	1.4	2.2	3.8	5.7	9.4	15.3	25.0	41.5	76.6	157.0
1985*(a)*	8.9	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.8	1.3	2.3	3.8	5.9	9.0	14.6	25.5	42.9	76.4	157.9
1986	7.7	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.8	1.4	2.2	3.5	5.7	8.8	15.1	24.8	41.1	71.2	148.3
1987	7.5	0.3	0.2	0.1	0.4	0.5	0.5	0.5	0.8	1.3	2.1	3.5	5.5	8.6	13.9	23.9	40.8	72.1	151.3
1988	7.6	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.8	1.2	2.1	3.4	5.5	8.7	13.8	23.5	40.7	71.4	147.7

(a) Adjusted for late registrations in New South Wales.

LIFE EXPECTANCY AT VARIOUS AGES, AUSTRALIA

	Ages—									
	0		*1*		*25*		*45*		*65*	
Period	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
1970–72*(a)*	67.9	74.6	68.3	74.7	45.8	51.5	27.1	32.6	12.2	15.9
1975–77*(a)*	69.6	75.6	69.6	76.5	46.9	53.1	28.3	34.0	13.1	17.1
1980–82*(a)*	71.2	78.3	71.1	78.0	48.2	54.5	29.5	35.3	13.8	18.0
1981 *(b)*	71.4	78.4	71.2	78.1	48.3	54.7	29.6	35.4	13.9	18.1
1982 *(b)*	71.2	78.2	71.1	77.9	48.2	54.5	29.5	35.2	13.9	17.9
1983 *(b)*	72.1	78.7	71.9	78.4	48.9	54.9	30.1	35.6	14.2	18.3
1984 *(b)(c)*	72.6	79.1	72.4	78.7	49.3	55.2	30.5	35.9	14.5	18.5
1985 *(b)(c)*	72.3	78.8	72.1	78.5	49.2	55.0	30.4	35.7	14.3	18.2
1986 *(b)*	72.9	79.2	72.6	78.8	49.6	55.3	30.9	36.0	14.7	18.5
1987 *(b)*	73.0	79.5	72.8	79.1	49.7	55.5	31.0	36.2	14.7	18.6
1988 *(b)*	73.1	79.5	72.8	79.1	49.8	55.6	31.1	36.3	14.8	18.7

(a) Source: Australian Government Actuary rates. *(b) Source:* Australian Bureau of Statistics. *(c)* Adjusted for late registrations in New South Wales.

Changes in levels of mortality and age-specific death rates reflect trends in the incidence of specific causes of death. The three most prevalent causes of death for both sexes at the present time are ischaemic heart disease, cancer and cerebrovascular disease or stroke which in 1988 collectively accounted for 67.0 per cent of deaths registered. In recent years there have been decreases in the incidence of most of the major causes of death with the exception of cancer, with age-standardised death rates falling by half or more for some classes of disease between 1971 and 1988.

STANDARDISED DEATH RATES (a), CAUSES OF DEATH BY SEX, AUSTRALIA

Cause of death	*1971*	*1976*	*1981*	*1986*	*1987*	*1988*
MALES						
Neoplasms	198	205	215	214	213	217
Endocrine, nutritional and metabolic diseases	20	17	16	17	19	18
Cardiovascular diseases	458	419	349	292	284	272
Cerebrovascular diseases	143	123	98	73	72	69
Other circulatory diseases	62	53	40	31	30	29
Respiratory diseases	106	109	83	73	74	76
Diseases of the digestive system	29	32	32	28	28	28
Diseases of infancy	25	20	14	12	11	12
Accidents	80	70	58	48	47	49
Violence, suicide	21	19	20	21	24	23
Other	58	53	49	52	53	57
Total	**1,200**	**1,120**	**974**	**861**	**855**	**851**
FEMALES						
Neoplasms	125	125	122	130	127	129
Endocrine, nutritional and metabolic diseases	19	16	13	13	13	13
Cardiovascular diseases	246	212	175	159	155	148
Cerebrovascular diseases	136	113	86	66	63	61
Other circulatory diseases	46	37	27	20	19	19
Respiratory diseases	37	40	28	27	29	31
Diseases of the digestive system	17	18	17	17	17	17
Diseases of infancy	21	17	11	10	9	10
Accidents	32	28	22	20	18	20
Violence, suicide	11	7	7	7	7	7
Other	45	37	35	38	39	39
Total	**735**	**650**	**543**	**507**	**496**	**494**

(a) Per 100,000 persons, standardised to age distribution for persons, 1981.

Cause of death is age- and sex-related, with different causes assuming greater or lesser significance in males and females of different age groups. The most common causes of death during the first year of life are the culmination of conditions originating in the perinatal period. These include prematurity, birth injury and respiratory conditions present from birth.

Accidents, poisoning and violence were the leading causes of death for each age group in the range 1–44 years, and particularly at ages 15 to 24 years where external causes accounted for 75.0 per cent of all deaths.

When male and female deaths were compared for particular age groups there were marked differences for certain main causes of death. For example, in the age group 25 to 44 years, the male death rates for heart disease and accidents, poisonings and violence (external causes) were over three times the equivalent rates for females.

The main cause of death for people in the 45–64 year age range was malignant neoplasms, accounting for 40.0 per cent of deaths. Deaths due to malignant neoplasms as a proportion of all deaths have risen slightly over the period 1980 to 1988. However, there has been little change in the distribution of cancer deaths by the primary site of growth. Malignant neoplasms of the digestive organs and peritoneum accounted for approximately 30 per cent of both male and female cancer deaths. The pattern of cancer deaths across other sites varied between the sexes. Whereas for 29.6 per cent of male deaths due to malignant neoplasms the primary site of growth was located in the respiratory and intrathoracic organs, this site accounted for only 12.7 per cent of female cancer deaths. However, malignant neoplasms of the breast accounted for 2,348 female deaths in 1988, representing 18.4 per cent of all female cancer deaths.

For people aged 65 and over the main cause of death was heart disease. In 1988, 32.3 per cent of all deaths registered in Australia were attributed to heart disease. While this proportion was similar for males and females overall, the distribution of deaths by age group differed between the sexes. Heart disease was a more significant cause of death at younger ages for males than for females. For males, heart disease was the leading cause of death for most age groups over 40, while for females, heart disease was only the leading cause of death for age groups over 70 years. These age groups accounted for 83 per cent of all female deaths from heart disease.

Marriages

The number of marriages occurring in Australia reached a peak of 117,600 in 1971 which, despite a growing population, has not yet been surpassed. The 1971 peak was followed by a rapid decline in numbers which coincided with growing public acceptance of de facto relationships. Although this decline levelled off in the latter half of the 1970s and numbers have recovered in the 1980s (there were 116,800 marriages in 1988) the crude marriage rate has continued to drop. In 1988 it was 7.1 per thousand mean population.

The passing of the *Family Law Act in 1976* (which provided easy and faster access to divorce) had a significant effect on the composition of marriages. Prior to the Act approximately 80–85 per cent of marriages were first marriages for both partners, but after 1976 this proportion fell to 65–70 per cent. In 1988 the figure was 67.1 per cent.

MARRIAGES REGISTERED: RELATIVE PREVIOUS MARITAL STATUS, NUMBER AND PER CENT, AND CRUDE MARRIAGE RATE, AUSTRALIA

	Both partners never married		*One or both partners previously married*			
Period	*Number*	*Per cent*	*Number*	*Per cent*	*All marriages*	*Crude marriage rate*
Annual averages—						
1971–1975	93,734	83.8	18,068	16.2	111,802	8.3
1976–1980	73,401	69.1	32,896	30.9	106,297	7.4
1981–1985	77,003	67.5	37,035	32.5	114,038	7.4
1986	76,647	66.7	38,266	33.3	114,913	7.2
1987	76,706	67.2	37,407	32.8	114,113	7.0
1988	78,400	67.1	38,416	32.9	116,816	7.1

MEDIAN AGES OF BRIDEGROOMS AND BRIDES, PREVIOUS MARITAL STATUS, AUSTRALIA

	Median age of bridegrooms				*Median age of brides*			
Period	*Bachelors*	*Widowers*	*Divorced*	*Total*	*Spinsters*	*Widows*	*Divorced*	*Total*
Annual averages—								
1971–75	23.3	57.8	37.3	23.9	21.0	51.1	33.0	21.4
1976–80	23.9	58.4	36.1	25.4	21.6	51.6	32.5	22.7
1981–85	24.9	59.8	36.6	26.4	22.7	52.2	33.5	23.9
1986	25.6	60.5	38.3	27.3	23.5	52.6	34.8	24.9
1987	25.9	60.6	38.6	27.6	23.8	52.4	35.1	25.2
1988	26.1	60.9	38.9	27.8	24.0	52.4	35.3	25.4

Since 1971 there has been a reversal in the post-war trend towards younger marriages. The median age at first marriage for both males and females is now rising, having increased from 23.3 years in 1971 to 26.1 years in 1988 for males and from 21.0 to 24.0 years for females. The median age for second and subsequent marriages is also rising. There is also a trend towards a narrower gap between the age of the bride and groom at the time of first marriage, having fallen from 2.3 years in 1971 to 2.1 years in 1988.

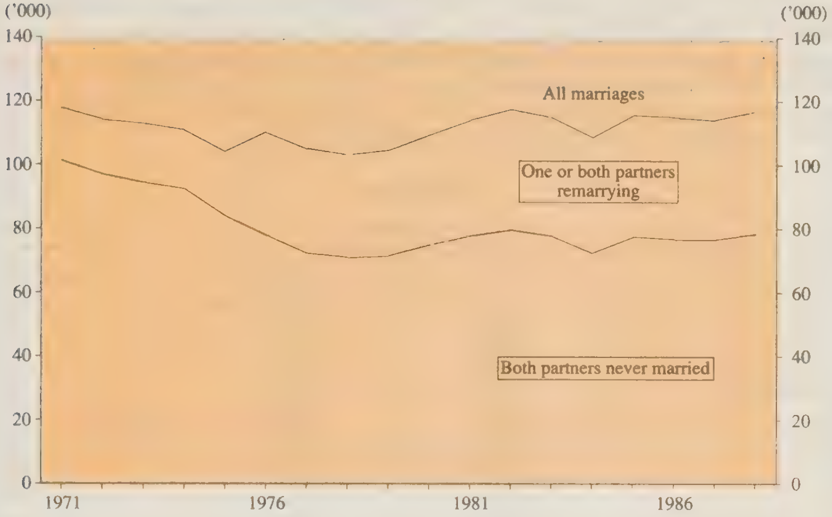
FIRST MARRIAGE RATIOS (a), AUSTRALIA

	Cumulative ratios of age-groups (b)—						*Index of total first marriages (c)*
Period	*To 19*	*20–24*	*25–29*	*30–34*	*35–39*	*40 and over*	
			BRIDEGROOMS				
Average annual ratios—							
1971–75	72.0	506.4	201.4	58.7	22.9	30.9	892.2
1976–80	37.6	368.2	184.4	55.2	20.8	28.5	694.7
1981–85*(d)*	16.9	310.1	221.1	71.2	23.3	24.6	667.3
Annual ratios—							
1981	29.0	346.7	209.4	62.7	22.7	27.5	695.7
1982	24.1	337.0	220.3	68.2	22.9	27.3	699.8
1983	19.1	312.6	223.4	71.0	22.9	24.6	673.7
1984*(d)*	15.6	277.3	218.4	70.9	22.7	23.9	628.7
1985*(d)*	14.1	280.3	236.9	81.2	25.2	25.0	662.9
1986*(d)*	9.8	263.0	237.1	85.0	26.6	23.6	645.0
1987	9.0	247.2	241.5	90.4	27.4	24.3	639.8
1988	9.8	239.9	248.3	96.3	30.8	23.1	648.1
			BRIDES				
Average annual ratios—							
1971–75	299.1	452.2	92.7	27.5	10.9	15.8	898.2
1976–80	182.9	362.7	95.5	28.0	11.4	14.7	695.0
1981–85*(d)*	111.9	377.0	135.0	36.1	11.8	11.2	682.8
Annual ratios—							
1981	142.9	384.6	116.1	30.7	11.2	12.7	698.2
1982	130.7	389.2	129.8	34.3	11.4	12.2	707.9
1983	110.4	382.8	136.9	36.4	11.5	11.4	689.3
1984*(d)*	93.2	355.5	137.4	36.6	11.3	11.1	645.0
1985*(d)*	88.7	372.5	156.1	39.5	13.4	12.0	685.0
1986*(d)*	76.3	360.7	165.8	46.5	14.0	11.2	674.6
1987	67.3	350.0	173.5	50.8	15.8	11.5	668.9
1988	63.1	346.9	184.5	55.2	16.3	11.2	677.2

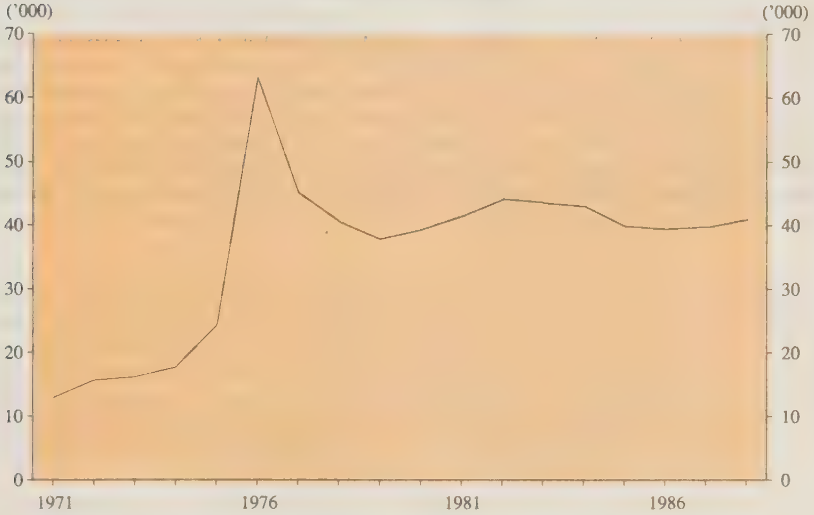
(a) Per 1,000 mid-year population of males and females of each age. *(b)* Ratios for each age-group are calculated by summing the ratios for single years. *(c)* The sum of all single year ratios. *(d)* These ratios have been affected by late registrations of births, deaths and marriages in New South Wales.

The increasing median age at first marriage is reflected in first marriage ratios which show declines for both brides and grooms under the age of 25 and increases in the age range 25–39. The discrepancy in age at first marriage between brides and grooms is also revealed by the lower ratios for grooms under the age of 25. The Index of total first marriages, which is the cumulative total of first marriage ratios at each age, has been declining throughout the last two decades. It shows that the falling crude marriage rate cannot be attributed to changes in the age structure of the population i.e. that there is a real reduction in the propensity to marry in the Australian community.

MARRIAGES, AUSTRALIA



DIVORCES (a), AUSTRALIA



(a) The sharp increase in divorces between 1975 and 1976 is due to the introduction of the Family Law Act in 1976.

The decline in first marriage ratios under the age of 25 and the increase in the median age at first marriage over the last decade may reflect to some extent the tendency of some couples to live together before getting married. It seems reasonable to postulate that amongst de facto couples a certain proportion will eventually marry, even though at a later age, whereas others will prefer to remain unmarried. Analysis of current trends in marriage is qualified by the absence of any time series data on the formation of de facto relationships. However there is evidence from the Family Formation Surveys in 1982 and 1986, the 1986 Census and, indirectly, Censuses in 1971, 1976 and 1981, that the number of de facto relationships is growing. At 30 June 1986 there were 204,900 de facto 'couple families' compared with 3,370,100 married couple families.

Divorces

DIVORCES, AUSTRALIA

Period	*Divorces*	*Years*	*Divorces*
Annual averages—		Annual totals—	
1971–75	17,348	1978	40,608
1976–80	45,220	1979	37,854
1981–85	42,396	1980	39,258
Annual totals—		1981	41,412
1971	13,002	1982	44,088
1972	15,707	1983	43,525
1973	16,266	1984	43,124
1974	17,744	1985	39,830
1975	24,307	1986	39,417
1976	63,230	1987	39,725
1977	45,150	1988	41,007

Divorce in Australia comes under the jurisdiction of the *Family Law Act 1975*. This Act which came into operation on 5 January 1976, provides for a single ground for divorce, namely irretrievable breakdown of marriage, which is established by a minimum one-year separation of the husband and wife. Passing of the Act provided easier and faster access to divorce for either party by its removal of the need to prove fault, together with a reduction of the separation period from five years to one year. After the introduction of the Family Law Act, the number of divorces rose from annual averages of 17,350 to 45,220 between 1971–75 and 1976–80 respectively, while the median duration of marriage of divorcing couples decreased from 12.5 years in 1971 to 10.2 years in 1981, increased slightly to 10.6 in the years to 1986 and then declined to 10.1 years in 1988.

DIVORCES: DURATION OF MARRIAGE, AUSTRALIA

	Duration of marriage (years)						
Year	*Under 5*	*5–9*	*10–14*	*15–19*	*20 and over*	*Total*	*Median duration of marriage*
			AT DATE DECREE MADE ABSOLUTE				
			—per cent—				years
1976	15.5	30.2	18.1	12.5	23.7	100.0	11.0
1977	17.3	28.7	18.6	12.5	23.0	100.0	10.9
1978	19.3	28.6	18.5	12.2	21.4	100.0	10.5
1979	20.1	28.4	18.3	12.3	20.9	100.0	10.3
1980	20.7	28.4	19.3	11.8	19.8	100.0	10.2
1981	20.8	28.5	19.6	11.9	19.2	100.0	10.2
1982	20.3	28.0	20.0	13.0	18.8	100.0	10.4
1983 r	20.3	26.9	20.5	13.3	19.0	100.0	10.6
1984 r	20.8	26.6	19.6	13.8	19.1	100.0	10.6
1985 r	21.2	26.4	18.7	14.1	19.5	100.0	10.6
1986	21.7	26.2	17.8	14.3	19.3	100.0	10.6
1987 r	22.1	26.9	17.3	14.4	19.1	100.0	10.2
1988	21.4	28.1	17.3	14.2	19.1	100.0	10.1
			AT DATE OF FINAL SEPARATION				
			—per cent—				years
1976	39.6	22.5	13.6	10.6	13.8	100.0	6.9
1977	36.9	24.2	14.9	10.7	13.4	100.0	7.4
1978	36.4	24.6	15.1	10.6	13.3	100.0	7.4
1979	36.2	24.5	15.0	11.0	13.3	100.0	7.5
1980	36.4	24.9	15.4	10.5	12.8	100.0	7.5
1981	36.4	24.9	15.9	10.2	12.6	100.0	7.5
1982	36.2	24.3	16.3	10.9	12.3	100.0	7.6
1983 r	35.9	23.4	17.1	11.0	12.5	100.0	7.8
1984 r	36.4	22.8	16.9	11.1	12.6	100.0	7.8
1985 r	36.6	22.3	16.7	11.6	12.9	100.0	7.7
1986	37.6	21.5	16.0	11.7	13.2	100.0	7.6
1987 r	38.3	21.7	15.4	11.8	12.8	100.0	7.3
1988	38.5	22.1	15.1	11.8	12.6	100.0	7.3

There is currently a tendency for divorce to occur in the early years of marriage and at an early age. The proportion of divorces taking place within the first five years of marriage was 21.4 per cent in 1988 and within the first ten years it was 49.5 per cent. The highest divorce rates for both males and females occurred in the 25–29 year age group, with 19.3 per thousand married men and 19.6 per thousand married women completing divorce proceedings. The overall incidence of divorce increased slightly in 1988 (to 10.8 per thousand married population) after a period between 1982 and 1987 in which a significant decline occurred (from 12.5 to 10.6 per thousand married population).

AGE-SPECIFIC DIVORCE RATES PER 1,000 MARRIED POPULATION, AUSTRALIA

	Age group (years)									
Year	*Under 25*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50–54*	*55–59*	*60 and over*	*Total*
					HUSBAND					
1976	18.0	31.6	28.8	23.9	21.2	18.6	15.0	11.1	5.1	18.9
1981	13.8	22.4	18.9	16.2	13.5	10.9	8.3	5.2	2.3	11.9
1982	13.5	22.9	20.6	17.1	14.9	11.6	8.3	5.8	2.3	12.5
1983	13.4	21.3	20.0	17.1	14.7	11.6	8.5	5.7	2.4	12.2
1984	12.9	20.8	19.6	17.0	14.5	11.7	8.3	6.0	2.4	12.0
1985	12.2	18.6	17.8	15.8	13.4	10.7	7.7	5.6	2.1	10.9
1986	12.1	18.6	17.1	14.8	13.3	11.1	8.3	5.4	2.1	10.7
1987	12.3	18.7	17.8	15.0	13.0	10.8	7.8	5.1	2.1	10.6
1988	12.2	19.3	18.3	15.6	13.3	11.0	8.0	5.2	2.0	10.8
					WIFE					
1976	22.7	31.5	26.9	22.0	19.2	16.0	12.6	8.8	4.1	18.8
1981	18.0	22.0	16.9	14.7	11.8	8.9	6.2	4.1	1.8	11.9
1982	17.7	23.0	18.4	15.7	12.9	9.7	6.4	4.0	1.8	12.5
1983	17.3	21.9	18.1	15.6	12.7	9.7	6.4	4.1	1.8	12.2
1984	16.8	21.2	17.7	15.5	13.3	9.7	6.1	4.0	1.8	11.9
1985	15.3	19.0	16.5	14.4	12.1	9.0	5.7	3.8	1.6	10.9
1986	15.9	18.5	15.8	13.7	12.0	9.5	6.0	3.7	1.5	10.6
1987	16.6	18.9	16.0	13.8	11.8	9.2	5.7	3.5	1.5	10.6
1988	16.8	19.6	16.6	14.1	12.0	9.4	5.7	3.6	1.4	10.8

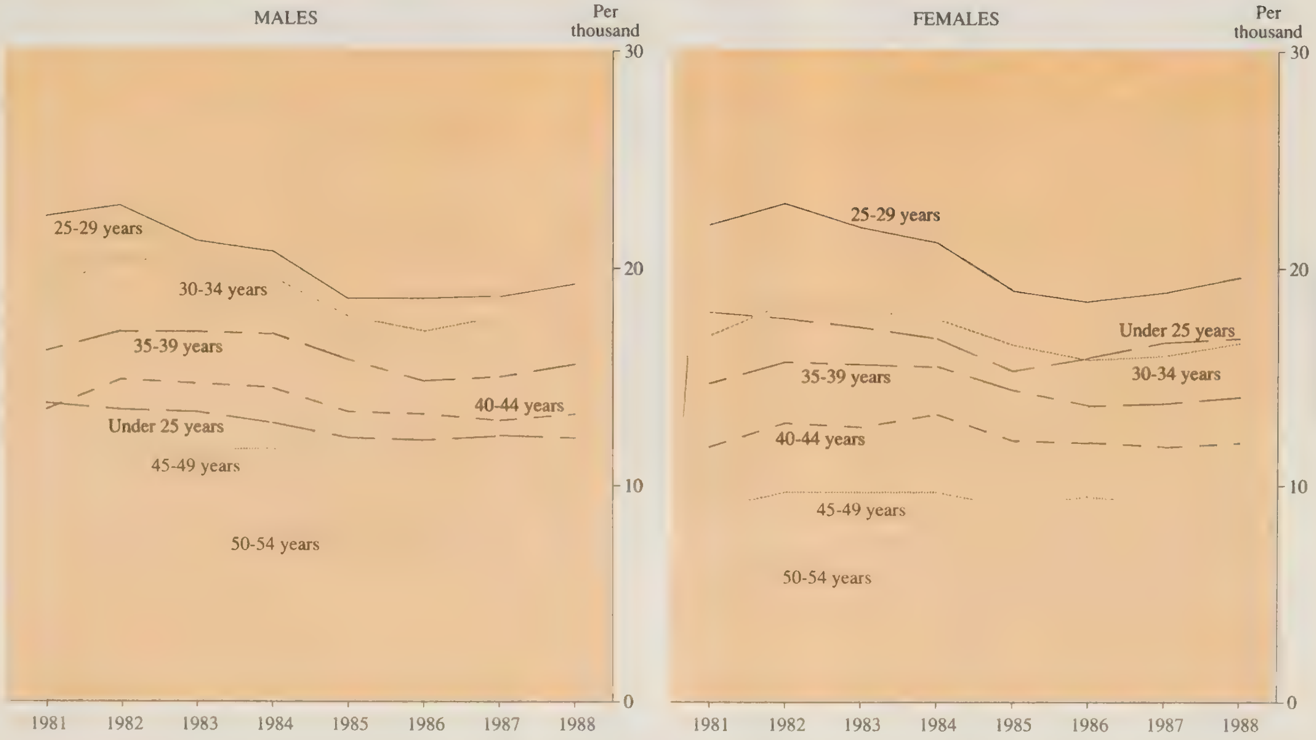
The current declining median duration between marriage and final separation combined with increasing average interval between marriage and first birth (see Births section above) is having the beneficial effect of reducing the proportion of divorcing couples with children. The proportion of divorces in which children were involved declined from 61.6 per cent in 1983 to 57.5 per cent in 1988. The average number of children per divorce has remained steady at 1.9.

DIVORCES: PERCENTAGE DISTRIBUTION OF THE NUMBER OF CHILDREN OF THE MARRIAGE, AUSTRALIA

	Number of children									
Period	*0*	*1*	*2*	*3*	*4*	*5*	*6 or more*	*Total divorces*	*Total children*	*Average number of children(a)*
				—per cent—				No.	No.	No.
1976–80	37.6	22.5	24.3	10.5	3.6	1.0	0.5	226,100	276,088	2.0
1981–85	38.8	21.5	26.1	10.1	2.7	0.6	0.2	211,979	252,198	1.9
1981	38.9	21.5	25.6	10.0	3.0	0.7	0.3	41,412	49,616	2.0
1982	38.4	21.6	26.2	10.3	2.7	0.6	0.2	44,088	53,010	2.0
1983	38.4	21.8	26.2	10.2	2.7	0.5	0.2	43,525	52,059	1.9
1984	39.1	21.6	26.2	9.8	2.6	0.5	0.2	43,124	50,713	1.9
1985	39.4	21.1	26.2	10.0	2.6	0.5	0.2	39,830	46,800	1.9
1986	40.3	21.2	25.8	9.5	2.5	0.5	0.2	39,417	45,231	1.9
1987	41.4	21.7	25.1	9.0	2.2	0.5	0.1	39,723	44,050	1.9
1988	42.5	21.5	24.7	8.7	2.2	0.4	0.1	41,007	44,395	1.9

(a) Divorces involving one or more children.

AGE SPECIFIC DIVORCE RATES PER 1000 MARRIED POPULATION : SELECTED AGE GROUPS
AUSTRALIA



Remarriages

During the 1980s the number of remarriages (i.e. marriages involving one or more previously married parties) has remained steady but on a higher plateau than in the 1970s. The 1988 total of 38,400 remarriages, which represented 32.9 per cent of all marriages, was typical of the current level. The average number of remarriages in the second half of the 1970s, 1976-80, was 32,900 or 30.9 per cent of all marriages. This was also a period in which numbers remained remarkably steady.

The reason for the sudden rise in remarriages at the beginning of the 1980s was brought about entirely by growth in the numbers of marriages in which one or both parties were divorced at the time of marriage and was an after-effect of the *Family Law Act 1976* (see Divorces section above).

Set against rising population numbers, the current plateau in remarriages is resulting in declining remarriage rates. The remarriage rate for males was 64.2 per thousand widowed and divorced male population in 1988, down from 84.2 in 1981. The female rate has fallen from 30.5 in 1981 to 26.1 in 1988. Again (see above) the absence of data on de facto unions of people previously married qualifies analysis of current trends. The discrepancy between male and female remarriage rates is caused by longer female survival and therefore greater numbers of females being available for remarriage at older ages.

MARRIAGES IN WHICH ONE OR BOTH PARTNERS HAVE BEEN PREVIOUSLY MARRIED: RELATIVE PREVIOUS MARITAL STATUS, NUMBER AND PER CENT, AUSTRALIA

	Both partners divorced		*One partner divorced*		*Other (a)*		
Period	*No.*	*%*	*No.*	*%*	*No.*	*%*	*Total No.*
Annual averages—							
1976–80	9,961	30.3	19,924	60.6	3,011	9.2	32,896
1981–85*(b)*	12,125	32.7	22,399	60.5	2,511	6.8	37,035
Annual totals—							
1976	8,767	27.3	20,031	62.3	3,359	10.4	32,157
1981	11,656	32.1	21,851	60.3	2,758	7.6	36,265
1982	12,208	32.4	22,865	60.8	2,569	6.8	37,642
1983	12,108	32.7	22,491	60.6	2,499	6.7	37,098
1984*(b)*	11,956	33.1	21,814	60.4	2,345	6.5	36,115
1985*(b)*	12,698	33.3	22,973	60.4	2,383	6.3	38,054
1986*(b)*	12,870	33.5	22,868	59.9	2,528	6.5	38,266
1987	12,438	33.2	22,594	60.4	2,396	6.4	37,428
1988	12,709	33.1	23,359	60.8	2,348	6.1	38,416

(a) One or both partners widowed. *(b)* The statistics for 1984, 1985 and 1986 were affected by late registrations in New South Wales.

REMARRIAGES, DIVORCED AND WIDOWED PERSONS AGED 15 AND OVER, AUSTRALIA

		Remarriages of persons previously—			*Remarriage rates*		
Year	*Total marriages*	*Widowed*	*Divorced*	*Total*	*Widowed (a)*	*Divorced (b)*	*Total (c)*
			MALES				
1976	109,973	3,777	19,404	23,181	29.6	201.2	103.5
1981	113,905	3,152	23,293	26,445	23.1	131.1	84.2
1982	117,275	2,988	24,429	27,417	21.3	119.5	79.6
1983	114,860	2,959	24,333	27,292	21.0	110.5	75.5
1984	108,655	2,798	23,708	26,506	19.7	100.3	70.0
1985	115,493	2,843	25,129	27,972	19.8	100.7	71.2
1986	114,913	2,952	25,285	28,237	20.9	101.8	72.5
1987	114,113	2,920	24,602	27,522	19.9	89.3	65.2
1988	116,816	2,845	25,281	28,126	19.1	87.5	64.2
			FEMALES				
1976	109,973	4,378	18,161	22,539	7.9	146.3	33.3
1981	113,905	3,727	21,870	25,597	6.1	96.9	30.5
1982	117,275	3,579	22,852	26,431	5.7	90.5	30.0
1983	114,860	3,457	22,374	25,831	5.4	82.5	28.5
1984	108,655	3,312	22,018	25,330	5.2	75.8	27.1
1985	115,493	3,414	23,240	26,654	5.3	75.7	27.9
1986	114,913	3,564	23,279	26,843	5.6	74.8	28.2
1987	114,113	3,393	22,783	26,176	5.1	67.1	26.1
1988	116,816	3,324	23,496	26,820	5.0	65.8	26.1

(a) Per thousand widowed males. *(b)* Per thousand divorced males. *(c)* Per thousand widowed and divorced males. *(d)* Per thousand widowed females. *(e)* Per thousand divorced females. *(f)* Per thousand widowed and divorced females.

MIGRATION

Statistics of overseas arrivals and departures are compiled from incoming and outgoing passenger cards which are collected from all travellers under the Migration Act 1958. Earlier statistics were obtained from Shipping and Plane manifests required under various Acts.

Since 1924, overseas travellers have been classified into two principal categories which distinguish short-term movements (of less than 12 months duration) from long-term movements (of 12 months duration or longer, including permanent movements). Revised questions for travellers were introduced in 1959 and again in 1974. The 1959 revision enabled the distinction of permanent from other long-term movements and also the identification of former settlers departing permanently. The 1974 revisions improved the layout of the passenger card without changing the classification.

Migration to Australia

Migration to Australia is presently regulated by the Migration Act 1958 which came into force on 1 June 1959. Any person entering Australia after the introduction of the Act without having been granted an entry permit or who is not within an exempted class is a prohibited non-citizen. Exempted persons include New Zealand citizens, diplomatic and consular representatives of other countries, and seamen and air crew who enter Australian ports while on leave.

Until recently, total net gains (i.e., the excess of total arrivals over total departures) provided a satisfactory measure of the population gain from international migration. In recent years, however, because of the large increase in short term movements (nearly 8 million in 1988), distortions arising from seasonality of these movements have become very large. For the purpose of estimating the population of Australia and the States and Territories, therefore, the migration component of population growth has been measured since 1 July 1971 by reference to permanent and long-term movements only. Net permanent and long-term migration is estimated to have directly contributed 39.6 per cent of the total population increase between 1971 and 1989.

Throughout the last two decades, British migrants have remained the most numerous group of settlers, although they have declined in absolute numbers and as a proportion of total settler arrivals. In the first half of the 1970s they comprised 41.2 per cent of settler arrivals but in the three years 1986 to 1988 this proportion had fallen to 19.1 per cent. At the same time the number of settlers from other European sources, such as Italy, Greece, Yugoslavia, Germany and the Netherlands, have also declined. Indirectly, though, the fall in British and European immigration has been somewhat offset by substantial increases in settlers arriving from New Zealand.

BIRTHPLACE OF SETTLER ARRIVALS (a), AUSTRALIA, SELECTED YEARS

Birthplace	*1971–75*	*1976–80*	*1981–85*	*1986–88*	*1971–75*	*1976–80*	*1981–85*	*1986–88*
	—'000—				—per cent—			
United Kingdom and Ireland	226.0	94.8	115.9	73.0	41.2	25.7	25.2	19.1
New Zealand	17.5	46.5	48.6	56.6	3.2	12.6	10.6	14.8
Italy	18.4	6.6	4.3	1.9	3.4	1.8	0.9	0.5
Yugoslavia	40.3	7.9	7.3	9.1	7.3	2.2	1.6	2.4
Greece	21.1	5.6	3.9	2.7	3.8	1.5	0.8	0.7
Vietnam	*(b)*	36.4	47.2	15.1	*(b)*	9.8	10.3	3.9
Germany	10.3	5.1	11.6	4.3	1.9	1.4	2.5	1.1
United States of America	19.5	6.1	8.4	6.2	3.6	1.7	1.8	1.6
Lebanon	12.8	18.1	7.0	10.0	2.3	4.9	1.5	2.6
Netherlands	5.6	4.7	6.4	1.7	1.0	1.3	1.4	0.4
India	12.1	4.5	8.3	7.8	2.2	1.2	1.8	2.0
South Africa	6.3	11.2	12.2	12.6	1.1	3.0	2.7	3.3
Poland	2.2	3.6	14.8	4.4	0.4	1.0	3.2	1.2
Turkey	11.6	5.0	3.7	3.8	2.1	1.4	0.8	1.0
Philippines	3.1	8.4	15.4	24.5	0.6	2.3	3.4	6.4
Malaysia	4.8	8.7	10.4	16.6	0.9	2.4	2.3	4.3
Hong Kong	*(b)*	5.4	9.9	16.2	*(b)*	1.5	2.2	4.2
Kampuchea	*(b)*	2.4	10.3	3.8	*(b)*	0.7	2.2	1.0
Other	136.8	88.1	113.8	112.9	24.9	23.9	24.8	29.5
Total	548.4	369.1	459.4	383.2	100.0	100.0	100.0	100.0

(a) Permanent arrivals only. *(b)* The statistics for this country are not separately available but are included in the category 'Other'.

Since the first large intakes of Vietnamese refugees in the late 1970s increasing numbers of settlers have been arriving from Asian countries. Growth is currently strongest in the numbers arriving from Hong Kong, Malaysia and the Philippines, which combined, have accounted for 15.0 per cent of the settler arrivals in the three years 1986 to 1988.

Since 1978–79, family immigration has increased in importance, with migration of family members now amounting to over 50 per cent of settler arrivals. Another recent trend has been the increase in non-visaed migrants to Australia. These are primarily New Zealand citizens migrating under the Trans-Tasman Travel Arrangement under which Australian and New Zealand citizens may enter each country without the need to obtain visas or entry permits. Other non-visaed migrants include children born to Australian citizens overseas, persons who have acquired Australian citizenship overseas and residents of Norfolk Island (an Australian Territory). New Zealand migrants increased numerically from 17,500 to 48,600 between 1971–75 and 1981–85 and as a proportion of total migrants from 3.2 per cent to 10.6 per cent between those periods. In 1988, New Zealanders comprised 16.0 per cent of total settler arrivals for the year.

The age composition of settlers has been younger than that of Australia's population for some time and reflects the predominance of young families arriving in Australia. Persons aged 65 years and over represented 3.6 per cent of migrants arriving between 1971 and 1985, which contrasts with the share of these people in Australia's population of 10.5 per cent in 1986. In 1988 3.3 per cent of settlers were aged 65 years and over, whereas the share in the total population has risen to 10.9 per cent.

PERMANENT ARRIVALS BY SEX AND AGE, PERCENTAGE DISTRIBUTION, AUSTRALIA

	Age group						
Period	*0–4*	*5–14*	*15–24*	*25–44*	*45–64*	*65 and over*	*Total number*
MALES							
Annual averages—							
1971–75	13.3	17.9	23.1	36.4	7.0	2.2	55,790
1976–80	13.4	19.4	20.9	34.4	8.1	3.8	36,830
1981–85	12.2	19.1	19.0	38.4	7.8	3.6	46,760
1986	10.4	18.2	18.3	40.0	9.1	3.9	51,000
1987	11.2	18.0	16.6	41.8	8.7	3.7	63,798
1988	11.0	18.3	15.6	43.0	8.9	3.1	75,718
FEMALES							
Annual averages—							
1971–75	12.9	17.3	25.4	32.4	8.9	3.2	53,900
1976–80	12.5	17.3	21.9	32.9	10.5	4.9	37,000
1981–85	11.8	17.4	19.3	37.6	9.4	4.5	45,122
1986	10.0	15.8	19.2	40.4	10.3	4.3	52,326
1987	10.7	16.3	18.0	40.8	10.0	4.2	64,490
1988	10.6	17.1	17.4	41.8	9.5	3.5	75,831
PERSONS							
Annual averages—							
1971–75	13.1	17.6	24.2	34.4	7.9	2.7	109,690
1976–80	13.0	18.3	21.4	33.6	9.3	4.3	73,830
1981–85	12.0	18.3	19.2	38.0	8.6	4.0	91,882
1986	10.2	17.0	18.8	40.2	9.7	4.1	103,326
1987	11.0	17.2	17.3	41.3	9.4	4.0	128,288
1988	10.8	17.7	16.5	42.4	9.2	3.3	151,549

Despite the youthfulness of the settlers, their median age has been rising. In 1971 it was 23.1 years and in 1988 it was 26.0 years. This rise has been particularly marked since 1981, when the numbers of migrants under the 'family reunion' category began to increase. At the younger ages, declines have taken place since the mid 1970s in the proportion of settlers in the 15–24 year age group while there has been an increase in the proportion of settlers in the 25–44 year age group.

The sex ratio of settlers tends to be high in years of large intake, and falls as intake declines. There has been a rise in the sex ratio in recent years as numbers of settler arrivals have increased, although at 99.9 males per 100 females in 1988 the sex ratio is historically low. (Traditionally male settlers have predominated.) Males currently predominate in the 0–14 and 25–44 year age groups only. There is a low and declining sex ratio for settlers aged 15–24 years. The ratio for settlers aged 45 years and over, though at the same level as the 15–24 year age group, is historically high for those ages and rising.

PERMANENT ARRIVALS: SEX RATIOS (a) BY AGE, AUSTRALIA

	Age group					
Period	*0–14*	*15–24*	*25–44*	*45–64*	*65+*	*Total*
Annual averages—						
1971–75	109.6	94.1	116.5	81.2	72.3	103.5
1976–80	109.6	95.1	104.1	76.4	76.8	99.5
1981–85	111.3	101.7	105.7	85.1	83.2	103.6
1986	108.1	93.0	96.6	86.5	88.1	97.5
1987	106.8	91.5	101.4	86.4	85.6	98.9
1988	105.3	89.9	102.6	93.8	89.1	99.9

(a) The number of males per 100 females.

Refugees

Since 1945, Australia has accepted more than 420,000 refugees or displaced persons, including 170,000 from Europe who were displaced by World War II and its aftermath. Australia presently accepts refugees from about 40 countries. The largest element in recent years in Australia's refugee intake has been the Indo-Chinese program which currently accounts for just over half the number of refugee arrivals.

REFUGEE ARRIVALS(a), AUSTRALIA

Period	*Number*
Annual averages—	
1971–75	10,549
1976–80	12,558
1981–85	17,072
Annual totals—	
1981	21,972
1982	17,522
1983	17,016
1984	15,761
1985	13,089
1986	10,196
1987	12,255
1988	10,303

(a) Includes arrivals under the Special Humanitarian Program instituted late in 1981.

Australia is one of 97 countries which have become party to an international convention and protocol on the status of refugees and, in so doing, have taken on certain international legal obligations to assist refugees. The final determination of a refugee's status and the decision to accept refugees for resettlement in Australia rests with the Australian Government. Australia is also a member of the Executive Committee of the United Nations High Commission for Refugees (UNHCR). Australia's response to refugee situations is twofold. Through aid programs directed principally through UNHCR, refugees are offered protection and assistance in countries of first refuge. Those refugees for whom other durable solutions are not feasible may be offered resettlement (in Australia) if they have relatives in Australia, other close ties with Australia or the potential for successful settlement in their own right. Such refugees must also be presented to Australia by the UNHCR as being registered or otherwise eligible for resettlement.

Permanent Departures

An important component constraining population growth is the level of population loss due to outmigration. Between 1971 and 1988, total permanent departures numbered 480,695 persons or an average of 26,705 per year, a level which is 27.3 per cent of the total permanent arrivals over this period. The ratio of departures to arrivals has fallen from 26.4 per cent in 1971 to 13.4 per cent in 1988.

PERMANENT DEPARTURES BY CATEGORY AND PERMANENT ARRIVALS, AUSTRALIA

	Permanent departures				
Year	*Former settlers*	*Other residents*	*Total*	*Permanent arrivals*	*Ratio of permanent departures to permanent arrivals*
1971	29,449	11,673	41,122	155,525	0.264
1972	33,172	12,709	45,881	112,468	0.408
1973	30,325	13,105	43,430	105,003	0.414
1974	21,849	11,902	33,751	121,324	0.278
1975	18,315	10,769	29,084	54,117	0.537
1976	16,815	9,917	26,732	58,317	0.458
1977	14,171	8,591	22,762	75,640	0.301
1978	14,027	10,934	24,961	68,420	0.365
1979	12,670	10,750	23,420	72,420	0.323
1980	11,450	9,393	20,843	94,500	0.221
1981	11,280	8,576	19,856	118,740	0.167
1982	13,352	9,141	22,493	107,170	0.210
1983	16,920	8,950	25,870	78,400	0.330
1984	12,550	9,760	22,310	73,110	0.305
1985	10,020	8,600	18,620	82,000	0.227
1986	9,960	8,860	18,820	103,330	0.182
1987	11,010	9,400	20,410	128,290	0.159
1988	10,480	9,840	20,320	151,550	0.134

Of the two categories of permanent departures, that is 'former settlers' and 'other residents', it has been under the first category that there has been the greatest outflow of persons. Between 1971 and 1988, 'former settlers' represented 62.0 per cent of all permanent departures. The departure of 'other residents' fluctuated between 9,000 and 13,000 persons from year to year throughout the period. The fall in the total number of departures, noted above, is largely attributable to the decline in the number of 'former settlers' departing. Two policy initiatives have contributed to the decline. These are firstly the shift in emphasis to family reunion as a basis for acceptance and secondly the refugee settlement program. Both family members and refugees are less likely than other settlers to return to their own country.

Internal Migration

Information on internal migration (migration from one part of Australia to another) has been available from the population censuses since 1971. The census asks people to state their place of usual residence on Census night and also on the same date one year ago and five years ago. Comparison of these addresses has provided data on interstate migration and also (for the 1986 census only) intrastate movement. Movers are classified by age, sex, birthplace and other selected characteristics. These census questions also provide data on where migrants, recently arrived from overseas, are now living.

Postcensal data on interstate migration are estimated, for quarterly intervals from information on interstate changes of address advised to the Health Insurance Commission in the process of administering Medicare. (No postcensal data is compiled on intrastate migration). Prior to 1986 postcensal interstate migration data were based on changes of address advised to the Department of Social Security by recipients of the Family Allowance.

Interstate migration has been an important influence on the distribution of Australia's population amongst the States and Territories. Historically it has been much more important than differential fertility or mortality and in many periods more important than overseas migration. The table below presents estimates of net interstate migration for the financial years from 1981–82 to 1988–89. Net interstate migration tends to be volatile in nature and large gains and losses have been recorded by all States.

NET INTERSTATE MIGRATION, AUSTRALIA

Year ended 30 June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
1982	–19.6	–14.4	35.5	–4.9	3.6	–2.0	2.1	–0.2
1983	–17.2	–5.1	20.8	–0.3	1.5	–1.2	0.5	1.0
1984	–10.3	–3.3	10.0	0.6	0.7	0.7	0.7	0.9
1985	–9.3	–5.8	12.9	–2.3	2.0	0.8	0.6	1.2
1986	–12.5	–13.2	16.5	–1.4	9.4	–0.1	–0.5	1.8
1987	–10.3	–13.4	18.1	–3.2	10.4	–2.8	–1.4	2.7
1988	–14.2	–14.8	26.2	–0.3	8.4	–3.4	–4.6	2.8
1989p	–39.1	–12.9	45.3	0.8	9.5	–1.3	–3.0	0.7

New South Wales has experienced substantial net losses, particularly to Queensland, but also to Western Australia and the Australian Capital Territory. The loss of 39.1 thousand in the year ended June 1989 was the largest ever recorded by this or any other State or Territory over a twelve month period.

Victoria has experienced net losses throughout the 1980s. These declined in the first half of the decade but have since risen again to former levels. The most popular destinations are Queensland, New South Wales and Western Australia.

Queensland has made major net gains in the 1980s, maintaining its ranking as the favourite destination for Australians moving interstate. Its net gain of 45.3 thousand in the year ended June 1989 was the highest ever recorded by it or any other State or Territory over a twelve month period.

South Australia has experienced small net losses throughout most of the 1980s, though marginal gains were posted in 1983–84 and 1988–89.

Western Australia has made consistent net gains reaching a higher plateau in the second half of the decade. It now ranks as the second most popular destination for Australians moving interstate. The major sources of new arrivals are New South Wales and Victoria.

Tasmania has experienced small net losses in all but two years of the 1980s. Marginal gains were posted in 1983–84 and 1984–85.

The Northern Territory made consistent net gains in the first half of the 1980s but has experienced small losses in more recent years. The Australian Capital Territory, with the exception of 1981–82, has made small net gains throughout the decade.

During the fifteen years from 1971 to 1986, the flow of persons interstate increased. Census data indicate that for the three five-year periods, 1971–76, 1976–81 and 1981–86, the number of interstate movers was 569,500, 651,200 and 716,555 respectively. This increase was evident for both males and females, with the sex ratio of interstate flows remaining virtually constant at 107.

Proportional to total population, the number of interstate moves numbered 46 per thousand in the 1971–76 intercensal period, rising to 49 per thousand during 1976–81 before falling back to 45 per thousand in the 1981–86 period.

INTERSTATE MOVERS BY AGE, MOBILITY RATES (a) AND SEX RATIOS (b) AUSTRALIA

Age group years	*Number of interstate movers*			*Mobility rates*		
	1971–76	*1976–81*	*1981–86*	*1971–76*	*1976–81*	*1981–86*
1–4	. .	. .	. .	. .	. .	. .
5–9	69,810	75,603	69,830	56	61	59
10–14	49,979	59,096	62,803	40	46	48
15–19	49,899	53,025	59,331	41	42	44
20–24	83,239	89,139	92,223	75	72	69
25–29	99,102	100,337	110,169	88	85	82
30–34	64,271	85,729	89,571	68	72	71
35–39	42,174	55,606	73,719	52	57	58
40–44	27,380	34,104	44,539	38	42	44
45–49	22,328	21,948	27,629	29	30	33
50–54	17,993	19,155	19,134	24	25	26
55–59	12,933	16,929	18,700	21	23	25
60–64	11,008	14,769	18,214	20	25	25
65 and over	19,402	25,745	30,693	16	18	18
Total	**569,518**	**651,185**	**716,555**	**46**	**49**	**45**
Sex ratios—						
Interstate movers	106	107	107			
Total population	100	100	100			

(a) Interstate movers per 1,000 population of the same age group at end of period. *(b)* The number of males per 100 females.

Interstate mobility rates by age have revealed a clear and consistent life cycle pattern in the propensity of persons to move interstate. Looking at the five-yearly migration data, there was, initially, an above-average rate for the 5–9 year age group because of the high mobility of their parents. This was followed by a period of below average mobility in the early teenage years. Mobility was highest at ages 20–39 years, from whence it steadily declined with age. The highest mobility rates occurred at ages 25–29 years and the lowest at ages 65 and over. Females were generally less likely to move interstate than males, with differences being most pronounced during the child-rearing ages from 25 to 45 years.

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7

LABOUR

The principal subjects covered in this chapter are labour force, unemployment, wage rates, earnings, hours of work, labour costs, industrial disputes, trade unions and Commonwealth Government employment and training programs. Further detail on these subjects is contained in *Labour Statistics, Australia* (6101.0), *A Guide to Labour Statistics* (6102.0) and in other publications listed at the end of this chapter.

The Labour Force

Fundamental to the measurement of employment and unemployment is the concept of the labour force. The labour force is defined broadly as those persons aged 15 and over who during a particular week are either employed or unemployed. The labour force represents the total official supply of labour available to the labour market during a given week.

This section presents some summary statistics on the civilian labour force drawn from the ABS monthly Labour Force Survey and associated supplementary surveys. Set out below is a range of characteristics such as whether persons are employed, unemployed or not in the labour force, together with demographic information (i.e. age, sex, marital status, birthplace, etc.). For a description of the Labour Force Survey and its relationship to the Population Census *see Year Book* No. 68. Further details concerning the scope, coverage and survey methods (as well as more detailed statistics) of the labour force and supplementary surveys can be found in the publications listed at the end of this chapter.

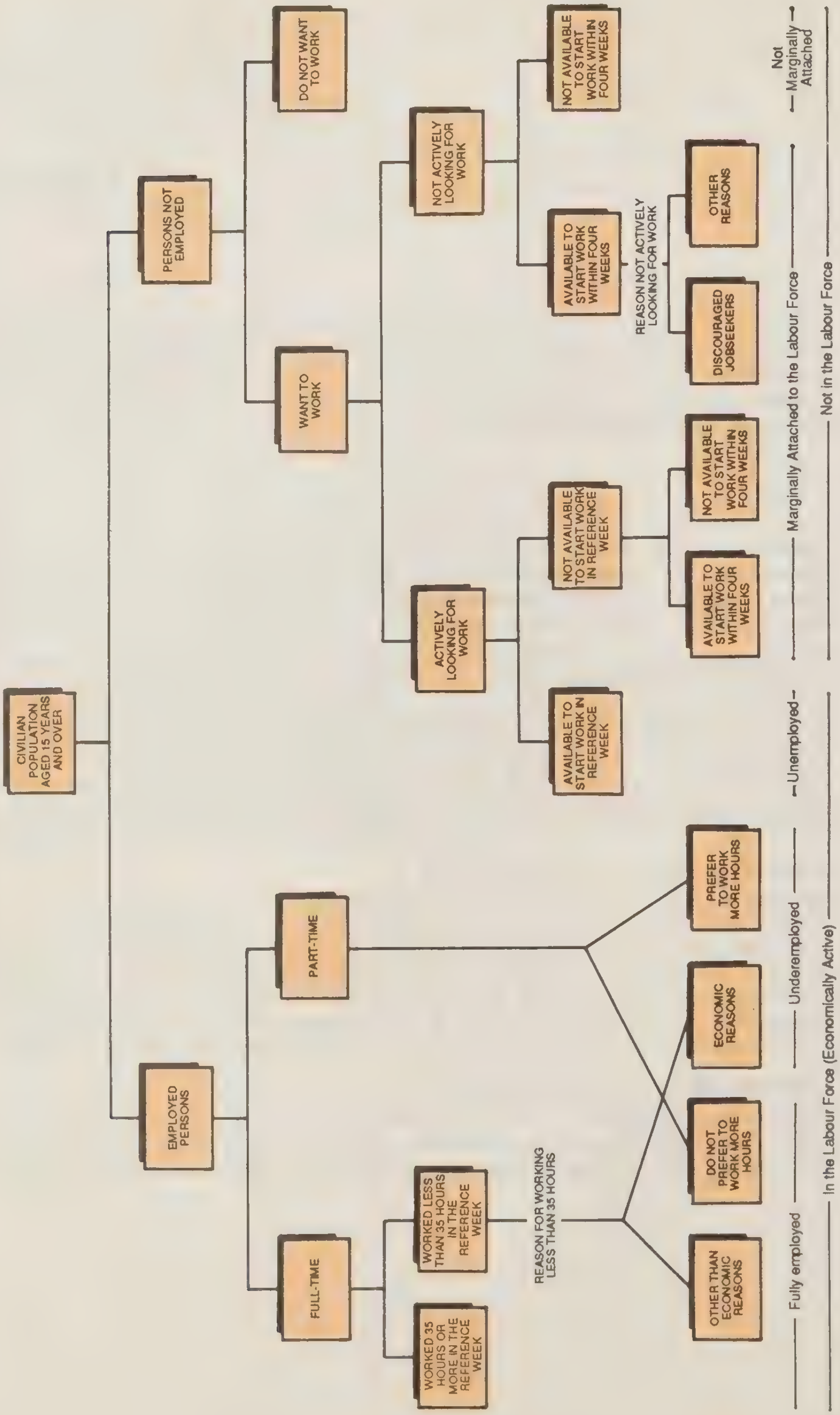
Australian labour force framework

The need to reflect the dynamic structure and characteristics of the labour market and the changes required to respond to evolving socio-economic conditions and policy concerns have resulted in significant modifications to the original Labour Force Survey framework that was developed in the 1960s. An ever-increasing demand to obtain information concerning underemployment and information on persons wanting work but not defined as unemployed has led to improvements to the conceptual basis of the Australian labour force framework. The modified framework is set out schematically on the next page.

Characteristics of the labour force

The size and composition of the labour force is not static over time. Growth of the labour force is due to an increase/decrease in labour force participation or in the population aged 15 and over. The table below sets out the growth of the labour force by source.

THE AUSTRALIAN LABOUR FORCE FRAMEWORK

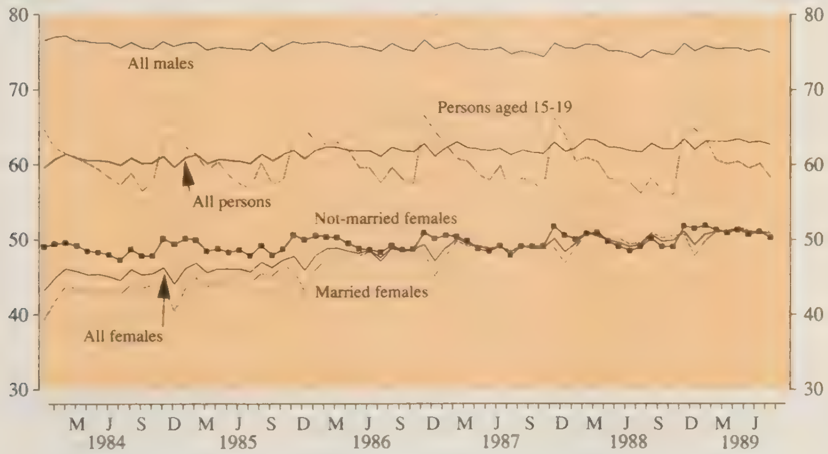

CIVILIAN POPULATION AGED 15 YEARS AND OVER
EMPLOYED PERSONS
PERSONS NOT EMPLOYED
FULL-TIME
PART-TIME
WANT TO WORK
DO NOT WANT TO WORK
WORKED 35 HOURS OR MORE IN THE REFERENCE WEEK
WORKED LESS THAN 35 HOURS IN THE REFERENCE WEEK
REASON FOR WORKING LESS THAN 35 HOURS
ACTIVELY LOOKING FOR WORK
NOT ACTIVELY LOOKING FOR WORK
OTHER THAN ECONOMIC REASONS
DO NOT PREFER TO WORK MORE HOURS
ECONOMIC REASONS
PREFER TO WORK MORE HOURS
AVAILABLE TO START WORK IN REFERENCE WEEK
NOT AVAILABLE TO START WORK IN REFERENCE WEEK
AVAILABLE TO START WORK WITHIN FOUR WEEKS
NOT AVAILABLE TO START WORK WITHIN FOUR WEEKS
AVAILABLE TO START WORK WITHIN FOUR WEEKS
REASON NOT ACTIVELY LOOKING FOR WORK
DISCOURAGED JOBSEEKERS
OTHER REASONS
NOT AVAILABLE TO START WORK WITHIN FOUR WEEKS
Fully employed
Underemployed
Unemployed
Marginally Attached to the Labour Force
Not Marginally Attached
In the Labour Force (Economically Active)
Not in the Labour Force

LABOUR FORCE: SOURCES OF GROWTH
(per cent)

	Males			*Females*			*Persons*		
		Percentage points change due to			*Percentage points change due to*			*Percentage points change due to*	
Year ending August	*Percentage change in labour force*	*Population growth*	*Labour force participation*	*Percentage change in labour force*	*Population growth*	*Labour force participation*	*Percentage change in labour force*	*Population growth*	*Labour force participation*
1984	1.5	1.8	-0.4	2.9	1.6	1.4	2.1	1.7	0.3
1985	1.4	1.9	-0.5	4.4	1.8	2.5	2.5	1.9	0.5
1986	2.1	2.2	-0.1	6.3	2.1	4.2	3.7	2.2	1.5
1987	1.6	2.1	-0.5	3.6	2.1	1.5	2.4	2.1	0.3
1988	1.4	2.1	-0.7	4.4	2.1	2.3	2.6	2.1	0.5
1989	3.1	2.1	0.9	5.0	2.0	2.8	3.9	2.0	1.8

One of the most important labour force measurements is the participation rate, which represents the proportion of the working age population who are in the labour force. Analysis of the participation rates provides the basis for monitoring changes in the size and composition of labour supply, particularly in terms of age, sex and marital status.

LABOUR FORCE PARTICIPATION RATES
(THE LABOUR FORCE IN EACH GROUP AS A PERCENTAGE OF THE CIVILIAN POPULATION AGED 15 AND OVER IN THE SAME GROUP)



The following two tables provide more detailed information on the labour force status of persons. The first table presents the age and sex composition of the total labour force as at August 1989. The second table shows changes in labour force status over time.

CIVILIAN LABOUR FORCE, BY AGE, AUGUST 1989

	Number ('000)					*Participation rate (per cent)*				
		Females					*Females*			
Age group	*Males*	*Married*	*Not married*	*Total*	*Persons*	*Males*	*Married*	*Not married*	*Total*	*Persons*
15–64	4,765.4	1,992.5	1,348.1	3,340.6	8,106.0	84.2	57.2	65.1	60.2	72.3
15–19	426.9	13.8	379.3	393.2	820.0	59.6	56.6	57.1	57.1	58.4
20–24	596.7	139.9	368.6	508.5	1,105.2	89.2	65.3	83.3	77.4	83.4
25–34	1,309.5	608.5	287.9	896.4	2,205.8	94.4	60.2	78.1	65.0	79.9
35–44	1,180.4	713.6	157.6	871.2	2,051.6	93.3	69.6	70.7	69.8	81.7
45–54	793.5	397.9	107.7	505.6	1,299.1	88.7	58.5	62.6	59.3	74.4
55–59	277.6	83.8	31.8	115.6	393.3	74.9	30.7	36.6	32.1	53.8
60–64	180.7	35.1	15.2	50.2	231.0	49.8	13.8	13.3	13.6	31.6
65 and over	67.2	13.7	10.1	23.8	91.0	8.5	3.1	1.6	2.2	4.9
Total	**4,832.6**	**2,006.2**	**1,358.2**	**3,364.4**	**8,197.0**	**74.9**	**51.1**	**50.3**	**50.8**	**62.7**

CIVILIAN POPULATION AGED 15 AND OVER: LABOUR FORCE STATUS

		Unemployed							
August	*Employed*	*Looking for full-time work*	*Looking for part-time work*	*Total*	*Labour force*	*Not in the labour force*	*Civilian population aged 15 years and over*	*Unemployment rate*	*Participation rate*
				—'000—				*—per cent—*	
				MALES					
1984	4,018.0	358.6	22.6	381.2	4,399.2	1,418.8	5,818.0	8.7	75.6
1985	4,111.1	325.4	23.7	349.1	4,460.2	1,469.5	5,929.8	7.8	75.2
1986	4,202.6	320.9	28.3	349.3	4,551.9	1,509.4	6,061.2	7.7	75.1
1987	4,277.1	317.2	29.8	347.1	4,624.2	1,565.4	6,189.6	7.5	74.7
1988	4,382.1	279.9	25.8	305.7	4,687.8	1,633.9	6,321.7	6.5	74.2
1989	4,571.9	230.7	30.0	260.7	4,832.6	1,619.7	6,452.3	5.4	74.9
				FEMALES					
1984	2,448.1	165.0	57.9	222.8	2,671.0	3,319.9	5,990.9	8.3	44.6
1985	2,564.5	162.7	60.9	223.6	2,788.1	3,313.6	6,101.6	8.0	45.7
1986	2,716.0	170.9	77.5	248.4	2,964.4	3,266.3	6,230.6	8.4	47.6
1987	2,815.2	177.8	77.1	255.0	3,070.2	3,291.4	6,361.6	8.3	48.3
1988	2,971.3	165.5	67.4	233.0	3,204.2	3,288.6	6,492.9	7.3	49.4
1989	3,155.7	139.4	69.3	208.7	3,364.4	3,258.7	6,623.1	6.2	50.8

The age at which a person leaves full-time education and the level of educational attainment reached can affect the labour force status of that person. The following two tables set out the differential effects of these characteristics.

LEAVERS FROM EDUCATIONAL INSTITUTIONS(a): LABOUR FORCE STATUS AND AGE, MAY 1989

	Leavers aged 15 to 19			Leavers aged 20 to 24			Total(b)		
Labour force status	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
					— '000 —				
Labour force	111.6	97.7	209.4	31.2	31.7	62.9	161.6	150.6	312.2
Employed	97.1	82.0	179.1	27.7	27.2	54.9	141.4	127.7	269.2
Full-time	87.4	65.2	152.5	25.8	21.5	47.3	129.3	100.4	229.7
Part-time	9.7	16.9	26.6	*1.9	5.7	7.5	12.1	27.4	39.5
Unemployed	14.5	15.7	30.2	3.5	4.5	8.0	20.2	22.9	43.0
Not in labour force	5.5	7.7	13.2	*1.4	*2.4	3.8	9.2	14.2	23.4
Total	**117.2**	**105.4**	**222.6**	**32.6**	**34.1**	**66.7**	**170.8**	**164.8**	**335.6**
					— per cent —				
Unemployment rate	13.0	16.1	14.4	11.2	14.3	12.8	12.5	15.2	13.8
Participation rate	95.3	92.7	94.1	95.7	93.0	94.3	94.6	91.4	93.0

(a) Leavers from educational institutions are persons who were full-time students at some time in the previous year but are not currently full-time students. (b) Includes leavers aged 25 to 64.

CIVILIAN POPULATION AGED 15 AND OVER(a): EDUCATIONAL ATTAINMENT AND LABOUR FORCE STATUS, FEBRUARY 1989

	Employed								
Educational attainment	Full-time	Part-time	Total	Unemployed	Labour force	Not in labour force	Total	Unemployment rate	Participation rate
				—'000—				—per cent—	
			MALES						
With post-school qualifications	2,145.9	95.2	2,241.1	82.5	2,323.6	448.8	2,772.4	3.5	83.8
Degree	478.8	27.2	506.0	18.0	524.0	67.6	591.6	3.4	88.6
Trade qualification or apprenticeship	1,125.2	36.3	1,161.5	41.5	1,203.0	272.5	1,475.5	3.4	81.5
Certificate or diploma	535.8	31.1	566.9	22.2	589.1	107.8	697.0	3.8	84.5
Other	6.1	*0.6	6.7	*0.7	7.5	*0.9	8.3	*10.0	89.6
Without post-school qualifications (b)	2,026.2	150.3	2,176.5	219.8	2,396.3	803.1	3,199.5	9.2	74.9
Attended highest level of secondary school available	488.3	63.2	551.4	48.7	600.1	130.8	730.9	8.1	82.1
Did not attend highest level of secondary school available	1,523.2	86.5	1,609.7	168.8	1,778.6	658.1	2,436.6	9.5	73.0
Left at age—									
18 and over	31.0	*2.0	33.0	4.2	37.2	6.3	43.5	11.3	85.6
16 or 17	610.2	26.4	636.7	61.4	698.1	90.7	788.7	8.8	88.5
14 or 15	758.5	45.7	804.2	89.1	893.3	401.4	1,294.7	10.0	69.0
13 and under	123.5	12.4	135.9	14.1	150.0	159.7	309.7	9.4	48.4
Never attended school	4.6	*0.3	4.9	*0.7	5.6	11.1	16.7	*12.8	33.5
Still at school	*1.4	60.3	61.7	17.9	79.6	204.2	283.7	22.5	28.0
Total	**4,173.5**	**305.7**	**4,479.3**	**320.2**	**4,799.4**	**1,456.1**	**6,255.6**	**6.7**	**76.7**
			FEMALES						
With post-school qualifications	852.8	443.3	1,296.1	83.6	1,379.7	700.7	2,080.4	6.1	66.3
Degree	194.8	73.3	268.1	14.2	282.4	83.6	366.0	5.0	77.2
Trade qualification or apprenticeship	54.5	34.3	88.8	5.3	94.2	101.0	195.2	5.7	48.2
Certificate or diploma	598.5	331.1	929.6	61.4	990.9	505.3	1,496.2	6.2	66.2
Other	5.0	4.6	9.6	*2.7	12.3	10.8	23.0	*22.0	53.2
Without post-school qualifications (b)	998.3	658.8	1,657.1	165.2	1,822.3	2,175.5	3,997.8	9.1	45.6
Attended highest level of secondary school available	279.2	150.1	429.3	48.3	477.6	257.4	735.0	10.1	65.0
Did not attend highest level of secondary school available	711.5	503.3	1,214.8	115.1	1,329.9	1,881.9	3,211.8	8.7	41.4
Left at age—									
18 and over	17.8	4.6	22.3	*2.8	25.1	17.9	43.0	*11.2	58.5
16 or 17	315.6	181.8	497.4	49.8	547.2	394.4	941.7	9.1	58.1
14 or 15	338.4	287.5	625.9	58.3	684.1	1,168.3	1,852.4	8.5	36.9
13 and under	39.7	29.5	69.2	4.2	73.4	301.3	374.7	5.7	19.6
Never attended school	*3.0	*1.8	4.7	*0.7	5.5	29.1	34.6	*13.4	15.8
Still at school	*0.8	82.1	82.9	19.4	102.3	182.0	284.3	19.0	36.0
Total	**1,852.0**	**1,184.2**	**3,036.1**	**268.2**	**3,304.4**	**3,058.1**	**6,362.5**	**8.1**	**51.9**

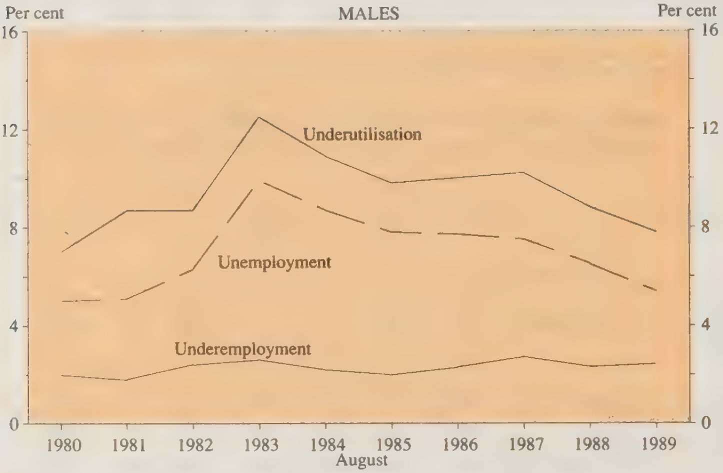
(a) Excludes visitors to private dwellings, some patients in hospitals and sanatoriums and inmates of reformatories, gaols, etc. (b) Includes persons for whom secondary school qualifications could not be determined.

In the light of the changing economic and social conditions of recent years, there is increasing concern whether the labour offered by individuals can be considered to be 'adequately utilised' by the labour market. A person's labour is deemed to be underutilised if the person is either unemployed or underemployed. Underemployment is deemed to exist when a person who usually works full-time does not work full-time in the reference period for economic reasons, which includes stand downs, short time, or insufficient work, or when a person who worked part-time indicated a preference to work more hours.

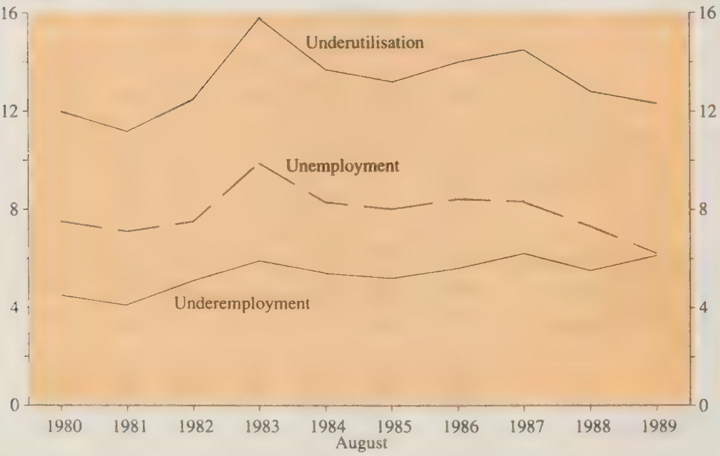
Underutilisation, underemployment and unemployment are summarised in the following graphs in which each category is expressed as a percentage of the labour force.

UNDERUTILISATION, UNDEREMPLOYMENT AND UNEMPLOYMENT RATES

MALES



FEMALES



Source: Employment, Underemployment Australia, 1966-1983 (6246.0). The Labour Force, Australia (6203.0).

Employment

This section provides a statistical summary of employment in Australia. Broadly, a person is considered to be employed if he or she is doing any work at all, regardless of the number of hours worked. In the statistics, employment is presented according to the demographic characteristics of employed persons, their occupation and industry, hours worked and whether they are full-time or part-time workers. Data for employed wage and salary earners by whether they work in the private or government sector and estimates for apprentices and qualified tradespersons are also included in this section. Most of the statistics on employment have been derived from the ABS monthly Labour Force Survey, the exception being the two tables on employed wage and salary earners by sector which were derived from the quarterly Survey of Employment and Earnings.

By relating employment levels to population levels, the magnitude of job growth in the economy can be evaluated. The measure relating these two levels is the employment/population ratio. Its usefulness lies in the fact that while movements in the employment level reflect net changes in the levels of persons holding jobs, movements in the ratio reflect net changes in the number of jobholders relative to changes in the size of the population. Note that while a rise in employment may not appear as a rise in the ratio because of continuous population growth, a decrease in employment will always appear as a fall in the ratio.

EMPLOYED PERSONS: EMPLOYMENT/POPULATION RATIOS (a)
(per cent)

	Age group (years)—								
August	*15–19*	*20–24*	*25–34*	*35–44*	*45–54*	*55–59*	*60–64*	*65 and over*	*Total*
				MALES					
1984	46.0	76.6	87.8	89.9	84.9	72.6	39.9	8.8	69.1
1985	46.6	78.6	87.7	90.6	85.7	71.1	39.3	8.6	69.3
1986	47.6	78.1	88.4	90.0	85.1	71.2	42.3	8.3	69.3
1987	47.1	78.2	88.0	90.0	85.7	70.2	41.6	8.4	69.1
1988	47.9	80.3	88.5	90.6	83.4	68.9	43.3	8.3	69.3
1989	52.0	82.1	89.9	90.0	86.1	71.5	46.2	8.4	70.9
				FEMALES					
1984	44.7	64.4	51.0	55.4	47.8	26.6	11.4	2.5	40.9
1985	46.4	65.9	53.3	58.2	48.0	26.1	11.1	1.9	42.0
1986	45.5	67.3	55.5	60.8	52.0	27.5	12.5	1.9	43.6
1987	43.2	67.7	57.2	61.8	52.8	29.5	13.1	2.6	44.3
1988	47.1	67.6	58.0	65.0	54.8	30.5	14.0	2.5	45.8
1989	48.8	71.3	61.2	67.1	56.9	31.3	13.3	2.2	47.6
				PERSONS					
1984	45.3	70.5	69.4	72.9	66.8	49.9	25.2	5.1	54.8
1985	46.5	72.3	70.5	74.7	67.3	48.9	24.8	4.8	55.5
1986	46.6	72.7	71.9	75.6	69.0	49.7	27.1	4.6	56.3
1987	45.2	73.0	72.6	76.0	69.7	50.2	27.1	5.0	56.5
1988	47.5	74.0	73.2	77.9	69.5	50.0	28.4	5.0	57.4
1989	50.4	76.8	75.6	78.7	71.9	51.7	29.6	4.8	59.1

(a) Employment/population ratio for any group is the number of employed persons expressed as a percentage of the civilian population aged 15 and over in the same group.

The table below presents the status of worker for employed persons. Employers, self-employed persons and wage and salary earners are those who, during the reference week, worked for one hour or more for pay, profit, commission or payment in kind in a job or a business, or on a farm. From April 1986, unpaid family helpers are those who, during the reference week, worked for one hour or more without pay in a family business or on a farm. Prior to April 1986, when a new definition was introduced, unpaid family helpers were those who worked for 15 hours or more without pay in a family business or on a farm.

EMPLOYED PERSONS: STATUS OF WORKER
('000)

August	*Employers*	*Self-employed*	*Wage and salary earners*	*Unpaid family helpers*	*Total*
1984	336.2	683.2	5,425.7	21.1	6,466.1
1985	351.9	713.5	5,582.6	27.6	6,675.6
1986	346.0	749.7	5,756.9	66.0	6,918.6
1987	363.2	732.2	5,937.8	59.1	7,092.3
1988	379.9	745.2	6,161.9	66.4	7,353.4
1989	369.8	774.1	6,531.1	52.5	7,727.6

A measure of the relative importance of an industry is the size of its workforce. Also of interest is the work effort of that workforce as measured by hours worked. Taken together, employment and hours worked by industry serve as an indicator of labour supplied to that industry. The following table shows the distribution of employed persons by industry and average hours worked.

EMPLOYED PERSONS BY INDUSTRY AND AVERAGE WEEKLY HOURS WORKED AUGUST 1989

	Number ('000)			*Average weekly hours worked*		
Industry	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Agriculture, forestry, fishing and hunting	291.3	115.0	406.2	46.0	26.8	40.5
Mining	94.1	11.3	105.4	42.2	35.1	41.5
Manufacturing	895.3	340.7	1,236.0	40.9	33.4	38.8
Food, beverages and tobacco	133.3	59.4	192.6	40.8	31.1	37.8
Metal products	170.2	33.6	203.7	41.5	32.4	40.0
Other manufacturing	591.9	247.8	839.7	40.7	34.0	38.8
Electricity, gas and water	103.0	10.4	113.4	36.4	31.6	36.0
Construction	526.0	75.4	601.4	40.9	20.6	38.3
Wholesale and retail trade	871.5	735.4	1,606.9	41.0	27.7	34.9
Transport and storage	325.1	82.4	407.5	40.9	31.9	39.1
Communication	101.5	38.3	139.8	36.5	31.6	35.2
Finance, property and business services	451.2	424.0	875.2	42.0	31.8	37.1
Public administration and defence	197.3	126.7	324.0	36.2	30.7	34.0
Community services	476.5	880.4	1,356.9	39.4	29.2	32.8
Recreation, personal and other services	239.0	315.7	554.7	39.0	28.3	32.9
Total	**4,571.9**	**3,155.7**	**7,727.6**	**40.7**	**29.5**	**36.1**

The following table sets out the distribution of employed persons across occupations.

EMPLOYED PERSONS BY OCCUPATION, AUGUST 1989
('000)

Occupation (a)	*Males*	*Married females*	*All females*	*Persons*
Managers and administrators	631.4	154.2	189.8	821.2
Professionals	585.5	225.1	375.1	960.6
Para-professionals	251.5	124.8	202.3	453.8
Tradespersons	1,115.4	69.3	124.3	1,239.7
Clerks	306.2	631.8	1,011.6	1,317.9
Salespersons and personnel service workers	399.8	359.9	729.1	1,128.9
Plant and machine operators, and drivers	501.7	74.9	102.7	604.4
Labourers and related workers	780.3	286.9	420.8	1,201.1
Total	**4,571.9**	**1,926.9**	**3,155.7**	**7,727.6**

(a) Classified according to the *Australian Standard Classification of Occupations* (ASCO), 1986.

Full-time workers are those who usually work 35 hours or more a week or who worked 35 hours or more during the reference week. Part-time workers are those who usually work less than 35 hours a week and who did so during the reference week. Estimates of these workers by sex and age are shown in the following table.

EMPLOYED PERSONS: FULL-TIME AND PART-TIME WORKERS BY AGE
AUGUST 1989
('000)

	Age group (years)—								
	15–19	*20–24*	*25–34*	*35–44*	*45–54*	*55–59*	*60–64*	*65 and over*	*Total*
				MALES					
Full-time workers	254.7	495.1	1,195.5	1,104.9	743.4	241.2	143.7	38.9	4,217.5
Part-time workers	117.3	53.9	47.1	34.1	26.7	23.8	24.0	27.4	354.4
Total	**372.0**	**549.1**	**1,242.6**	**1,139.1**	**770.1**	**265.0**	**167.7**	**66.3**	**4,571.9**
				FEMALES					
Full-time workers	175.8	365.5	534.8	453.5	270.1	61.6	20.1	10.2	1,891.5
Part-time workers	160.0	102.7	309.3	384.2	215.0	51.0	28.8	13.3	1,264.2
Total	**335.8**	**468.2**	**844.0**	**837.6**	**485.1**	**112.6**	**49.0**	**23.5**	**3,155.7**

Estimates of employed wage and salary earners by sector are contained in the following tables. The estimates shown are derived from the quarterly Survey of Employment and Earnings.

EMPLOYED WAGE AND SALARY EARNERS: SECTOR BY STATES AND TERRITORIES
JUNE 1989
('000)

Sector	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Private	1,561.5	1,253.5	683.0	362.4	363.2	95.9	36.0	53.0	4,408.5
Public	566.6	453.8	255.4	149.8	161.0	53.6	21.7	70.3	1,732.3
Commonwealth	135.3	94.7	49.9	32.6	24.2	9.3	4.8	69.8	420.5
State*(a)*	370.8	313.8	177.5	109.1	126.3	40.7	16.0	. .	1,154.8
Local	60.4	45.3	28.1	8.2	10.5	3.6	0.9	. .	157.0
Total	**2,128.1**	**1,707.3**	**938.4**	**512.2**	**524.2**	**149.6**	**57.7**	**123.3**	**6,140.8**

(a) Includes employees of the New South Wales State Government employed in the Australian Capital Territory.

EMPLOYED WAGE AND SALARY EARNERS: INDUSTRY BY SECTOR
('000)

	Private sector				*Public sector*			
Industry	*Sept. 1988*	*Dec. 1988*	*Mar. 1989*	*June 1989*	*Sept. 1988*	*Dec. 1988*	*Mar. 1989*	*June 1989*
Agriculture, forestry, fishing and hunting *(a)*	. .	. .	. .	. .	7.8	7.8	7.7	7.5
Mining	76.0	78.2	78.6	76.2	6.9	6.8	6.8	6.9
Manufacturing	990.8	1,027.3	1,044.4	1,020.5	44.1	43.1	42.8	40.7
Electricity, gas and water	4.3	4.1	4.1	3.8	122.9	120.4	119.8	119.0
Construction	247.4	252.4	254.0	264.8	41.2	40.8	41.0	40.2
Wholesale and retail trade	1,264.1	1,294.4	1,301.4	1,280.7	4.5	4.4	4.1	4.2
Transport and storage	152.9	165.9	167.5	173.1	139.0	139.3	138.5	136.9
Communication	0.6	0.6	0.5	1.2	126.9	127.5	126.8	127.1
Finance, property and business services	633.8	652.7	669.8	663.7	104.3	103.4	105.1	106.1
Public administration and defence *(b)*	—	—	—	—	377.3	317.0	317.6	315.4
Community services	465.3	460.7	481.6	492.1	799.0	788.1	782.5	803.1
Health	227.4	223.3	233.4	232.3	288.9	286.5	290.8	292.6
Education	100.9	103.4	106.5	109.3	388.5	381.0	369.7	384.7
Other	137.1	134.1	141.7	150.5	121.6	120.6	122.0	125.7
Recreation, personal and other services	425.4	432.8	432.3	432.3	25.4	25.7	25.8	25.3
Total all industries	**4,260.6**	**4,369.2**	**4,434.2**	**4,408.5**	**1,799.3**	**1,724.3**	**1,718.5**	**1,732.3**

(a) Out of scope of survey for private sector. *(b)* Excludes members of permanent defence forces and employees of overseas embassies, consulates etc.

A table on sector and industry of apprentices and the year of their apprenticeship follows. The data were derived from the Transition from Education to Work Supplementary Survey conducted in May 1989.

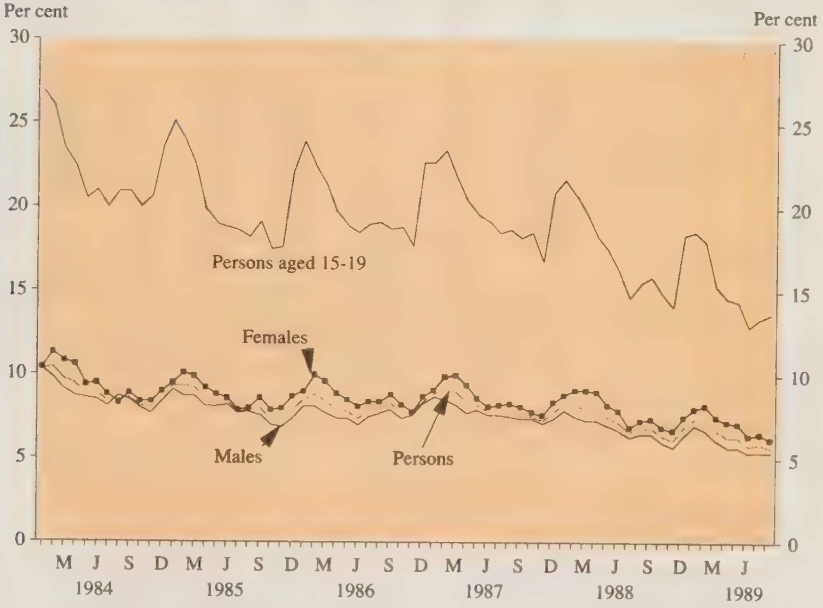
APPRENTICES: SECTOR AND INDUSTRY, MAY 1989
('000)

	Year of apprenticeship				
	First	*Second*	*Third*	*Fourth(a)*	*Total*
Industry —					
Manufacturing	16.6	13.3	11.0	8.0	49.0
Construction	12.7	8.6	6.2	7.3	34.8
Wholesale and retail trade	11.9	11.7	10.0	10.0	43.7
Recreation, personal and other services	7.7	5.4	4.4	4.2	21.7
Other *(b)*	7.1	8.5	5.4	5.2	26.2
Sector —					
Public	5.3	5.5	4.2	3.8	18.8
Private *(c)*	50.8	42.0	32.9	31.0	156.7
Total	**56.1**	**47.6**	**37.0**	**34.8**	**175.5**

(a) Includes a small number of fifth year apprentices. *(b)* Includes agriculture, etc.; mining; electricity, gas and water; transport and storage; communication; community services; finance, property and business services; and public administration and defence. *(c)* Includes a small number of persons for whom sector could not be determined.

Unemployment

UNEMPLOYMENT RATES
(THE UNEMPLOYED IN EACH GROUP AS A PERCENTAGE OF CIVILIAN LABOUR FORCE IN THE SAME GROUP)



The unemployment statistics presented in this section have been derived from the ABS monthly Labour Force Survey and its supplementaries.

Broadly, a person is considered to be unemployed if he or she satisfies three criteria—not employed, available for work, and taking active steps to find work. The most important characteristics presented include their demographic composition, the duration of unemployment and their educational qualifications. Also shown are some summary statistics on job vacancies.

Measures of unemployment provide one indicator of the underutilisation of labour. The two most important measures are the number of persons unemployed and the unemployment rate. The unemployment rate is defined as the number of unemployed expressed as a percentage of the size of the labour force.

By examining particular groups and characteristics of the unemployed, various economic and social aspects of unemployment can be analysed. While the aggregate unemployment rates shown above are important overall indicators, full-time and part-time unemployment levels and rates for different age groups by sex and marital status are also important. This information is set out in the table below, along with whether those aged 15–24 are looking for their first job.

UNEMPLOYED PERSONS: AGE AND WHETHER LOOKING FOR FULL-TIME OR PART-TIME WORK, AUGUST 1989

	Number unemployed ('000)				*Unemployment rate (per cent)*			
Age	*Males*	*Married females*	*All females*	*Persons*	*Males*	*Married females*	*All females*	*Persons*
	LOOKING FOR FULL-TIME WORK							
Aged 15–19	*37.5*	**2.9*	*34.4*	*71.9*	*12.8*	**29.0*	*16.4*	*14.3*
Looking for first job	13.5	*0.8	14.8	28.3	. .	. .	. .	. .
Attending school	*3.1	*0.0	*2.4	5.5	n.a.	n.a.	n.a.	n.a.
Attending a tertiary educational institution full-time	*2.1	*0.0	*1.7	3.8	n.a.	n.a.	n.a.	n.a.
Aged 20 and over	*193.2*	*43.7*	*105.0*	*298.2*	*4.6*	*4.1*	*5.8*	*5.0*
20–24	43.5	7.1	33.3	76.8	8.1	6.7	8.4	8.2
Looking for first job	4.5	*0.8	3.8	8.3	. .	. .	. .	. .
25–34	63.0	18.5	34.2	97.2	5.0	5.5	6.0	5.3
35–44	40.2	11.7	22.5	62.7	3.5	3.3	4.7	3.9
45–54	22.7	6.0	13.2	35.9	3.0	2.9	4.6	3.4
55 and over	23.7	*0.3	*1.8	25.6	5.3	*0.5	*2.0	4.7
Aged 15–64	*230.7*	*46.6*	*139.4*	*370.1*	*5.2*	*4.4*	*6.9*	*5.8*
Total	**230.7**	**46.6**	**139.4**	**370.1**	**5.2**	**4.4**	**6.9**	**5.7**
	LOOKING FOR PART-TIME WORK							
Aged 15–19	*17.4*	**0.3*	*23.0*	*40.4*	*12.9*	**8.1*	*12.6*	*12.7*
Attending school	11.5	*0.0	15.6	27.1	13.1	*0.0	14.3	13.8
Attending a tertiary educational institution full-time	4.5	*0.0	5.7	10.2	17.0	*0.0	15.4	16.1
Aged 20 and over	*12.6*	*32.4*	*46.3*	*58.9*	*5.0*	*3.5*	*4.0*	*4.2*
20–24	4.1	*1.8	7.0	11.1	7.1	*5.4	6.3	6.6
Attending a tertiary educational institution full-time	*3.3	*0.2	3.6	6.9	*10.5	*29.3	10.7	10.6
25–34	3.8	13.8	18.2	22.0	7.5	5.0	5.6	5.8
35–44	*1.1	9.0	11.0	12.1	*3.1	2.5	2.8	2.8
45 and over	3.5	7.7	10.1	13.6	3.3	2.9	3.2	3.2
Aged 15–64	*29.2*	*32.4*	*69.0*	*98.2*	*8.2*	*3.5*	*5.2*	*5.9*
Total	**30.0**	**32.7**	**69.3**	**99.3**	**7.8**	**3.5**	**5.2**	**5.8**

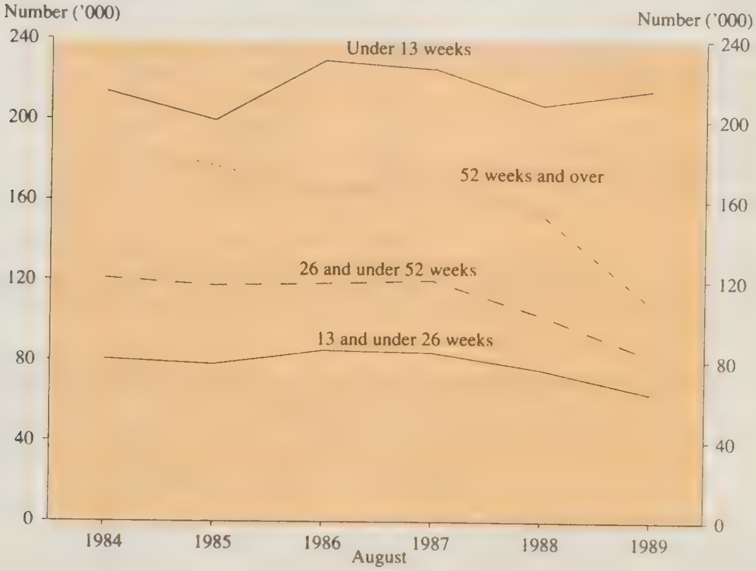
An important indicator of the severity of unemployment is the length of time a person is unemployed. Two views are presented—the chart depicts the increase in each duration of unemployment category from 1984 to 1989 while the table shows more detail as at August 1989. Note that in each case, only current and continuing periods of unemployment are shown rather than completed spells. This is because, in the monthly Labour Force Survey, duration of unemployment is the period from the time a person began looking for work or was laid off to the end of the reference week and only applies if the person is still unemployed.

UNEMPLOYED PERSONS: DURATION OF UNEMPLOYMENT AND AGE, AUGUST 1989

Duration of unemployment (weeks)	*Age group (years)—*							*Looking for*	
	15–19	*20–24*	*25–34*	*35–54*	*Total(a)*	*Married*	*Not married*	*Full-time work*	*Part-time work*
					—'000—				
Under 2	12.8	9.4	11.9	11.4	47.3	19.6	27.7	28.3	19.0
2 and under 4	15.3	11.1	15.1	11.6	54.8	19.7	35.1	35.6	19.2
4 and under 8	17.3	15.0	19.6	14.2	68.3	24.4	43.9	53.1	15.1
8 and under 13	12.3	6.5	13.6	9.5	44.6	17.9	26.7	33.4	11.3
13 and under 26	16.7	13.7	17.4	13.8	63.8	23.4	40.4	53.7	10.1
26 and under 39	16.5	10.4	14.6	16.6	62.5	24.0	38.6	48.2	14.4
39 and under 52	4.9	*2.2	4.8	6.1	19.9	8.2	11.8	18.5	*1.5
52 and under 65	5.4	5.1	4.8	5.7	23.7	9.5	14.2	20.7	*3.0
65 and under 104	4.8	3.9	4.6	4.5	19.4	7.7	11.7	17.5	*1.9
104 and over	6.4	10.5	12.8	25.3	65.1	32.6	32.6	61.1	4.0
Total	**112.4**	**87.9**	**119.2**	**118.8**	**469.4**	**186.8**	**282.6**	**370.1**	**99.3**
Average duration—									
Mean	*25.5*	*34.7*	*36.8*	*64.9*	*44.5*	*53.4*	*38.6*	*51.5*	*18.3*
Median	*12*	*13*	*12*	*22*	*15*	*16*	*14*	*18*	*5*

(a) Includes persons aged 55 and over, details for whom are not shown separately.

UNEMPLOYED PERSONS: DURATION OF UNEMPLOYMENT



Also of interest is the industry and occupation of their last full-time job. These estimates are set out in the table which follows.

UNEMPLOYED PERSONS: INDUSTRY AND OCCUPATION OF LAST FULL-TIME JOB AUGUST 1989

	Total ('000)			*Unemployment rate (per cent)*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
Had worked full time for two weeks or more in the last two years	*158.6*	*96.0*	*254.7*	*3.4*	*3.0*	*3.2*
Industry—						
Agriculture, forestry, fishing and hunting	11.2	*3.1	14.3	3.7	*2.6	3.4
Agriculture and services to agriculture	8.9	*2.9	11.8	3.2	*2.5	3.0
Manufacturing	37.5	15.4	52.9	4.0	4.3	4.1
Food, beverages and tobacco	6.1	5.3	11.4	4.4	8.1	5.6
Metal products	9.5	*1.0	10.4	5.3	*2.8	4.9
Other manufacturing	21.9	9.2	31.1	3.6	3.6	3.6
Construction	24.9	*1.0	25.9	4.5	*1.3	4.1
Wholesale and retail trade	34.3	30.0	64.3	3.8	3.9	3.8
Wholesale trade	11.4	5.2	16.6	3.3	3.3	3.3
Retail trade	22.9	24.8	47.7	4.1	4.1	4.1
Transport and storage	9.5	*2.0	11.5	2.8	*2.3	2.7
Finance, property and business services	8.6	9.8	18.4	1.9	2.3	2.1
Public administration and defence	5.2	*3.0	8.2	3.6	*2.3	2.5
Community services	7.9	17.1	25.0	1.6	1.9	1.8
Recreation, personal and other services	11.8	13.4	25.1	4.7	4.1	4.3
Other industries	7.7	*1.3	9.0	2.5	*2.1	2.4
Occupation major group *(a)*						
Managers and administrators	9.6	*2.5	12.1	1.5	*1.3	1.5
Professionals	8.4	5.0	13.4	1.4	1.3	1.4
Para-professionals	4.3	*3.4	7.7	1.7	*1.7	1.7
Tradespersons	31.1	4.9	36.0	2.7	3.8	2.8
Clerks	8.4	24.6	33.0	2.7	2.4	2.4
Salespersons and personal service workers	14.5	31.1	45.5	3.5	4.1	3.9
Plant and machine operators, and drivers	19.9	4.8	24.7	3.8	4.5	3.9
Labourers and related workers	62.5	19.7	82.2	7.4	4.5	6.4
Other (b)	*98.2*	*105.4*	*203.6*	. .	. .	. .
Looking for first job	35.5	44.1	79.5	. .	. .	. .
Looking for full-time work	20.7	22.6	43.3	. .	. .	. .
Former workers	62.7	61.3	124.1	. .	. .	. .
Stood down	*3.9*	*7.3*	*11.1*	. .	. .	. .
Total	**260.7**	**208.7**	**469.4**	**5.4**	**6.2**	**5.7**

(a) Classified according to the *Australian Standard Classification of Occupations* (ASCO), 1986. *(b)* Had never worked for two weeks or more in a full-time job or had not done so in the last two years; industry and occupation were not obtained for these persons.

UNEMPLOYED PERSONS: ACTIVE STEPS TAKEN TO FIND FULL-TIME OR PART-TIME WORK, JULY 1988

	Looking for full-time work				*Looking for part-time work*			
	Males	*Females*	*Persons*		*Males*	*Females*	*Persons*	
Active steps taken to find work during current period of unemployment		*—'000—*		*(per cent)*		*—'000—*		*(per cent)*
Registered with the CES and—								
Took no other active steps	*2.9	*1.9	4.8	1.1	*0.3	*2.1	*2.4	*3.1
Contacted prospective employers	224.0	109.9	333.9	78.3	6.2	20.9	27.1	35.3
Took other active steps	18.8	8.2	26.9	6.3	*0.5	*3.2	*3.7	*4.8
Total	*245.7*	*119.9*	*365.6*	*85.7*	*7.0*	*26.2*	*33.2*	*43.2*
Not registered with the CES and—								
Contacted prospective employers	27.8	29.7	57.4	13.5	10.7	27.4	38.1	49.6
Took other active steps	*1.7	*2.0	*3.7	*0.9	*1.6	*3.9	5.5	7.2
Total	29.5	31.6	61.1	14.3	12.3	31.3	43.6	56.8
Total	**275.1**	**151.6**	**426.7**	**100.0**	**19.2**	**57.5**	**76.8**	**100.0**

The number of unemployed persons shown above will differ from the number of unemployed persons shown in *The Labour Force, Australia* (6203.0). This is because the latter includes persons who are waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the reference week (including the whole of the reference week) for reasons other than bad weather or plant breakdown. Active steps taken to find work (also shown above) comprise writing, telephoning or applying in person to an employer for work; answering a newspaper advertisement for a job; checking factory or Commonwealth Employment Service (CES) noticeboards; being registered with the CES; checking or registering with any other employment agency; advertising or tendering for work; and contacting friends or relatives.

Job Vacancies

Job vacancy statistics taken together with unemployment statistics assist in the assessment of the demand for labour. However, unemployment and job vacancy statistics should be regarded as complementary indicators. This is because the monthly Labour Force Survey (which collects unemployment) and a quarterly survey of employers (which collects job vacancies) utilise different collection methodologies, sample designs, definitions and concepts.

A job vacancy is a job available for immediate filling on the survey date and for which recruitment action had been taken by the employer. Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying public or private employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the enterprise or organisation. Excluded are jobs available only to existing employees of the organisation; vacancies of less than one day's duration; vacancies to be filled by persons already hired or by promotion or transfer of existing employees; vacancies to be filled by employees returning from paid or unpaid leave or after industrial dispute(s); vacancies not available for immediate filling on the survey date; vacancies not available within the particular State or Territory to which the survey return relates; vacancies for work carried out under contract; vacancies for which no effort is being made to fill the position and vacancies which are available only to persons employed by government departments or authorities.

Statistics on job vacancies are produced from a survey conducted each quarter. Background information about the job vacancies series is provided in *Information Paper: New Statistical Series: Employment, Average Weekly Earnings, Job Vacancies and Overtime* (6256.0) issued on 21 June 1984.

JOB VACANCIES: STATES AND TERRITORIES
('000)

Month	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1985 May	22.3	16.8	4.7	3.6	4.3	1.2	1.1	2.5	56.6
1986 May	21.1	16.8	4.6	2.6	4.1	1.3	1.1	2.7	54.4
1987 May	19.9	17.6	4.0	3.5	5.5	1.0	0.7	1.6	53.8
1988 May	22.0	18.6	6.6	3.1	4.8	0.7	0.7	1.9	58.5
1989 May	26.3	24.1	10.4	3.5	4.5	0.9	1.1	2.3	73.1

JOB VACANCY RATES(a): STATES AND TERRITORIES
(per cent)

Month	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1985 May	1.2	1.2	0.6	0.8	1.0	0.9	2.3	2.3	1.1
1986 May	1.1	1.1	0.6	0.5	0.9	0.9	2.0	2.0	1.0
1987 May	1.1	1.2	0.5	0.7	1.1	0.7	1.5	1.3	1.0
1988 May	1.0	1.2	0.8	0.7	0.9	0.5	1.3	1.4	1.0
1989 May	1.2	1.5	1.2	0.7	0.9	0.6	1.9	1.7	1.2

(a) Job vacancy rate is calculated by expressing the number of job vacancies as a percentage of the number of employees plus vacancies.

Persons Not in the Labour Force

Persons not in the labour force represent that group of the population who, during a particular week, are not employed or unemployed. Interest in this group centres primarily around their potential to participate in the labour force.

In this section, information has been derived from the supplementary survey of Persons not in the Labour Force. Attention is given to demographic characteristics as well as focussing on degree of attachment to the labour force. Aspects such as whether they want a job, or whether they are discouraged jobseekers, are emphasised.

CIVILIAN POPULATION AGED 15 TO 69: LABOUR FORCE STATUS
('000)

	Sept. 1985	*March 1986*	*Sept. 1986*	*March 1987*	*March 1988*	*Sept. 1988*
Persons in the labour force	7,353.6	7,520.8	7,589.9	7,771.2	7,966.8	7,993.2
Persons not in the labour force	3,568.1	3,507.5	3,551.4	3,496.7	3,520.2	3,620.4
With marginal attachment to the labour force	727.2	697.4	737.2	696.4	725.0	721.7
Wanted to work and were actively looking for work	60.4	35.2	57.0	31.1	33.6	65.7
Were available to start work within four weeks	30.2	25.0	26.7	23.6	26.9	34.8
Were not available to start work within four weeks	30.2	10.2	30.3	7.6	6.7	30.9
Wanted to work but were not actively looking for work and were available to start work within four weeks	666.9	662.3	680.2	665.3	691.4	656.0
Discouraged jobseekers	83.0	91.5	83.6	94.4	92.0	83.8
Other	583.8	570.7	596.5	570.9	599.4	572.2
Without marginal attachment to the labour force	2,840.8	2,810.1	2,814.2	2,800.3	2,795.2	2,898.8
Wanted to work but were not actively looking for work and were not available to start work within four weeks	262.5	259.6	259.9	231.8	250.3	281.3
Did not want to work	2,479.8	2,446.6	2,453.8	2,460.9	2,437.8	2,515.7
Permanently unable to work	30.0	33.3	35.5	28.8	37.5	37.2
Institutionalised*(a)* and boarding school pupils	68.5	70.5	65.0	78.8	69.5	64.7
Civilian population aged 15 to 69	**10,921.7**	**11,028.3**	**11,141.3**	**11,267.9**	**11,487.0**	**11,613.6**

(a) Includes patients in hospitals and sanatoriums and inmates of reformatories, gaols, etc.

Persons with marginal attachment to the labour force are those who were not in the labour force in the reference week and wanted to work and were available to start work within four weeks; or were actively looking for work but were not available to start work within four weeks. Discouraged jobseekers, a sub-category of those with marginal attachment, are those persons who wanted to work and were available to start work within four weeks but whose main reason for not taking active steps to find work was that they believed they would not be able to find a job for any of the following reasons:

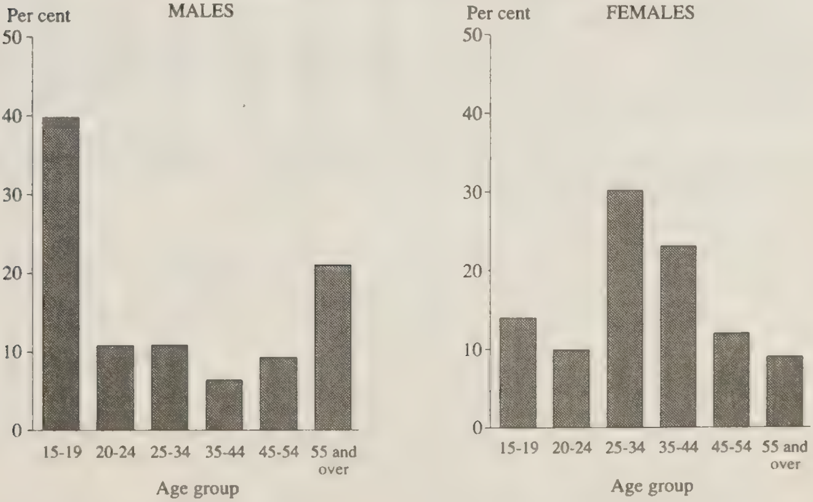
- considered by employers to be too young or too old;
- difficulties with language or ethnic background;
- lacked the necessary schooling, training, skills or experience;
- no jobs in their locality or line of work, or no jobs at all.

The following table gives an age and sex breakdown for persons with marginal attachment. Females account for 73.6 per cent of the marginally attached. While the age distribution of females with marginal attachment is similar to that of females in the labour force, teenage males (15 to 19) are over-represented among males with marginal attachment to the labour force, accounting for 40.1 per cent of that group.

PERSONS NOT IN THE LABOUR FORCE WITH MARGINAL ATTACHMENT TO THE LABOUR FORCE: AGE, SEPTEMBER 1988
('000)

	Persons who wanted to work and were actively looking for work			*Persons who wanted to work but were not actively looking for work and were available to start work within four weeks*			*Persons with marginal attachment to the labour force*		
Age group (years)	*Were available to start work within four weeks*	*Were not available to start work within four weeks*	*Total*	*Discouraged job-seekers*	*Other*	*Total*	*Males*	*Females*	*Persons*
15–19	9.2	19.7	28.9	8.0	115.7	123.7	76.5	76.1	152.6
20–24	5.4	6.2	11.6	*3.5	60.0	63.6	21.2	54.0	75.2
25–34	8.9	*2.1	10.9	12.8	159.3	172.1	21.4	161.7	183.0
35–44	5.9	*1.7	7.6	15.3	114.4	129.7	12.8	124.5	137.3
45–54	*3.9	*0.7	4.6	14.8	64.0	78.9	18.4	65.1	83.5
55–59	*1.1	*0.0	*1.1	12.4	26.4	38.8	12.9	27.0	39.9
60–64	*0.4	*0.6	*1.0	9.9	19.2	29.0	14.6	15.4	30.0
65–69	*0.0	*0.0	*0.0	7.1	13.1	20.2	13.1	7.1	20.2
Total	**34.8**	**30.9**	**65.7**	**83.8**	**572.2**	**656.0**	**190.8**	**530.9**	**721.7**

PERSONS NOT IN THE LABOUR FORCE WITH MARGINAL ATTACHMENT TO THE LABOUR FORCE: AGE AND SEX, SEPTEMBER 1988



Superannuation

In the November 1988 supplementary survey to the Labour Force Survey, persons aged 15 to 74 were asked whether they were covered by a superannuation scheme and, if so, details of that scheme. The survey provides information on those persons covered by superannuation schemes, those previously covered and those not covered. Details of gross weekly pay, expected main source of income and full-time or part-time status are also collected. A summary of the results of the survey is shown in the following tables.

PERSONS AGED 15 TO 74: COMPARATIVE PROFILE OF PERSONS COVERED BY A SUPERANNUATION SCHEME AND PERSONS NOT COVERED BY A SUPERANNUATION SCHEME, NOVEMBER 1988

('000)

	Covered			*Not covered*			*Total*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Labour force status —									
Employed	2,673.3	1,072.8	3,746.1	1,692.1	1,865.4	3,557.5	4,365.4	2,938.2	7,303.6
Full-time workers	2,626.4	865.4	3,491.8	1,509.6	983.1	2,492.7	4,136.1	1,848.5	5,984.5
Part-time workers	46.9	207.4	254.3	182.5	882.3	1,064.8	229.4	1,089.7	1,319.1
Unemployed	7.8	*4.3	12.1	238.7	195.0	433.7	246.5	199.3	445.8
Not in labour force	19.2	38.8	57.9	1,048.8	2,509.2	3,558.0	1,067.9	2,548.0	3,615.9
Age group —									
15–19	70.2	29.3	99.6	302.5	303.8	606.3	372.8	333.1	705.8
20–24	224.7	153.8	378.5	422.1	506.2	928.3	646.8	659.9	1,306.8
25–34	786.6	326.6	1,113.2	558.9	1,027.3	1,586.2	1,345.5	1,353.9	2,699.4
35–44	812.1	344.1	1,156.2	426.3	872.5	1,298.8	1,238.4	1,216.6	2,455.0
45–54	547.4	192.6	740.0	308.9	629.4	938.3	856.3	822.0	1,678.4
55–64	247.5	68.1	315.5	473.5	657.5	1,131.0	721.0	725.5	1,446.5
65–74	11.8	*1.4	13.2	487.2	573.0	1,060.2	499.0	574.4	1,073.4
Family status —									
Member of a family *(a)*	2,281.9	902.9	3,184.8	2,334.8	3,793.6	6,128.5	4,616.7	4,696.6	9,313.3
Husband or wife	1,961.7	695.0	2,656.7	1,667.9	2,912.1	4,580.0	3,629.6	3,607.1	7,236.7
With dependents present	1,286.5	372.8	1,659.3	699.9	1,557.1	2,257.0	1,986.5	1,929.8	3,916.3
Without dependents present	675.2	322.2	997.4	967.9	1,355.0	2,323.0	1,643.1	1,677.3	3,320.4
Not-married family head	46.6	76.5	123.1	46.1	370.3	416.4	92.8	446.7	539.5
With dependents present	24.6	53.0	77.5	17.6	251.1	268.7	42.2	304.1	346.3
Without dependent present	22.1	23.5	45.5	28.5	119.1	147.7	50.6	142.6	193.2
Other child/relative of family head	269.2	129.8	399.0	545.8	435.0	980.8	815.0	564.7	1,379.8
Not a member of a family	325.9	155.0	480.9	483.5	543.3	1,026.8	809.3	698.3	1,507.6
Living alone	175.3	79.0	254.3	236.5	350.6	587.1	411.9	429.6	841.5
Not living alone	150.6	76.0	226.5	246.9	192.7	439.6	397.5	268.7	666.2
Family status not determined	92.5	57.9	150.5	161.2	232.7	393.9	253.8	290.6	544.4
Total	**2,700.3**	**1,115.9**	**3,816.2**	**2,979.5**	**4,569.6**	**7,549.2**	**5,679.9**	**5,685.5**	**11,365.4**

(a) Includes full-time students aged 15 to 24.

FULL-TIME WORKERS AGED 15 TO 74: COMPARATIVE PROFILE OF PERSONS COVERED BY A SUPERANNUATION SCHEME AND PERSONS NOT COVERED BY A SUPERANNUATION SCHEME, NOVEMBER 1988

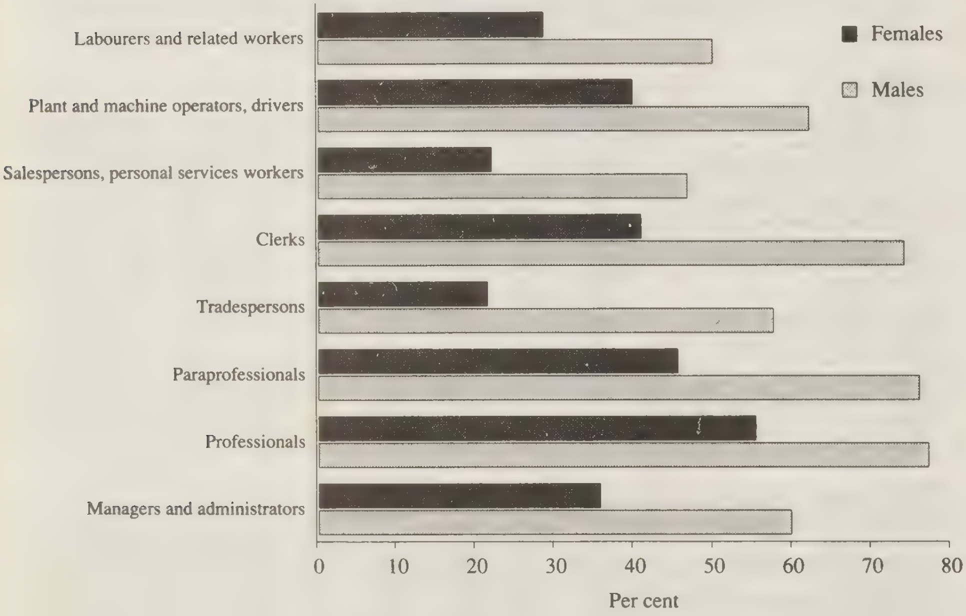
('000)

	Covered			*Not covered*			*Total*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Age group—									
15–19	68.1	27.1	95.3	183.6	154.7	338.3	251.7	181.8	433.6
20–24	217.1	144.7	361.8	261.3	223.1	484.4	478.4	367.8	846.2
25–34	765.6	255.5	1,021.1	394.8	247.1	641.9	1,160.3	502.6	1,663.0
35–44	795.6	256.6	1,052.2	309.3	192.1	501.5	1,104.9	448.8	1,553.7
45–54	535.8	135.7	671.5	182.7	115.3	298.0	718.5	251.0	969.5
55–64	234.0	44.5	278.6	150.3	42.0	192.3	384.4	86.5	470.9
65–74	10.2	*1.2	11.4	27.6	8.7	36.3	37.8	9.8	47.7
Family status—									
Member of a family*(a)*	2,223.2	672.5	2,895.7	1,189.2	776.1	1,965.3	3,412.4	1,448.6	4,861.1
Husband or wife	1,915.8	485.5	2,401.3	802.7	475.5	1,278.2	2,718.5	961.0	3,679.5
With dependants present	1,260.8	224.9	1,485.7	493.3	236.3	729.7	1,754.1	461.2	2,215.3
Without dependants present	655.0	260.6	915.6	309.4	239.2	548.6	964.4	499.8	1,464.2
Not-married family head	44.4	64.4	108.8	21.4	53.4	74.8	65.8	117.8	183.6
With dependants present	23.4	43.0	66.4	9.4	34.2	43.6	32.8	77.2	110.0
Without dependants present	21.0	21.4	42.4	12.1	19.2	31.3	33.0	40.6	73.6
Other child/relative of family head	260.5	122.6	383.2	359.3	246.1	605.4	619.8	368.7	988.6
Not a member of a family	314.3	145.0	459.3	241.0	147.8	388.9	555.3	292.9	848.2
Living alone	169.8	73.3	243.1	95.5	50.9	146.4	265.3	124.1	389.5
Not living alone	144.5	71.8	216.2	145.5	97.0	242.5	290.0	168.7	458.7
Family status not determined	88.9	47.9	136.8	79.4	59.1	138.5	168.3	107.0	275.3
Status of worker—									
Employers	129.9	23.0	152.9	134.7	44.4	179.1	264.6	67.4	332.0
Self-employed/unpaid family helpers	177.2	17.2	194.4	266.8	90.2	357.0	444.0	107.4	551.4
Employees	2,319.3	825.2	3,144.5	1,106.3	842.7	1,949.0	3,425.6	1,667.9	5,093.5
Payment in kind	*0.0	*0.0	*0.0	*1.8	*5.8	7.6	*1.8	*5.8	7.6
Industry—									
Agriculture, forestry, fishing and hunting	113.2	15.8	129.0	174.6	39.9	214.5	287.8	55.7	343.5
Mining	78.3	*3.7	82.0	8.7	*2.8	11.5	87.0	*6.5	93.5
Manufacturing	592.1	123.9	716.0	299.8	133.6	433.4	891.9	257.5	1,149.4
Electricity, gas and water	85.6	8.2	93.8	10.9	*2.3	13.2	96.5	10.6	107.0
Construction	262.2	*6.8	269.0	206.6	13.8	220.4	468.8	20.6	489.4
Wholesale and retail trade	379.6	116.1	495.7	359.7	246.6	606.2	739.3	362.7	1,101.9
Transport and storage	193.6	27.6	221.2	95.0	25.7	120.6	288.6	53.2	341.8
Communication	91.7	23.9	115.7	*4.0	*5.3	9.3	95.8	29.2	125.0
Finance, property and business services	243.1	126.4	369.5	115.8	160.1	276.0	358.9	286.6	645.5
Public administration and defence	175.3	78.0	253.2	30.7	20.6	51.3	206.0	98.5	304.5
Community services	332.7	302.2	634.8	94.7	224.8	319.6	427.4	527.0	954.4
Recreation, personal and other services	79.1	32.8	111.9	109.1	107.6	216.7	188.2	140.4	328.6
Occupation—									
Managers and administrators	378.2	52.7	430.9	231.8	83.0	314.7	610.0	135.6	745.6
Professionals	405.8	171.3	577.0	105.6	80.8	186.3	511.3	252.0	763.4
Paraprofessionals	189.4	70.1	259.5	54.6	65.2	119.9	244.0	135.4	379.4
Tradespersons	618.0	21.5	639.5	432.6	64.3	496.9	1,050.6	85.9	1,136.5
Clerks	215.5	325.5	541.0	63.7	314.5	378.2	279.2	640.0	919.1
Salespersons and other personal service workers	156.0	105.5	261.5	139.4	222.8	362.2	295.4	328.3	623.7
Plant and machine operators, and drivers	289.8	38.5	328.3	167.3	46.7	214.0	457.1	85.2	542.3
Labourers and related workers	373.8	80.3	454.1	314.6	105.9	420.5	688.4	186.2	874.5
Time in current job (years)—									
Under 5	1,042.9	451.3	1,494.2	1,068.4	771.8	1,840.1	2,111.3	1,223.0	3,334.3
5 and under 10	519.0	200.4	719.4	171.2	124.0	295.2	690.2	324.4	1,014.6
10 and under 15	396.3	110.1	506.4	90.9	39.4	130.3	487.1	149.5	636.6
15 and under 20	270.8	61.0	331.8	57.4	20.1	77.5	328.2	81.2	409.4
20 and over	397.4	42.6	440.1	121.8	27.7	149.5	519.2	70.4	589.6
Total	**2,626.4**	**865.4**	**3,491.8**	**1,509.6**	**983.1**	**2,492.7**	**4,136.1**	**1,848.5**	**5,984.5**

(a) Includes full-time students aged 15 to 24.

The following graph shows that amongst full-time workers, 63 per cent of males had superannuation coverage, compared with 47 per cent of female full-time workers. Occupation groups with a high proportion of full-time workers covered by superannuation were professionals, paraprofessionals, plant and machine operators and drivers, managers and administrators and tradespersons.

FULL-TIME WORKERS AGED 15 TO 74: PERCENTAGE COVERED BY A SUPERANNUATION SCHEME AND OCCUPATION, NOVEMBER 1988



Persons Employed at Home

In the April 1989 supplementary survey to the Labour Force Survey, persons aged 15 and over were asked information about the jobs in which they were employed at home.

Of the estimated 7,683,200 persons aged 15 and over who were employed in April 1989, 266,600 persons were employed at home; 33 per cent of those employed at home were aged between 35 and 44 and a further 26 per cent were aged 25 to 34.

Females accounted for 70 per cent of all persons who were employed at home, with 27 per cent of these working at home because their children were too young or they decided to look after children.

A summary of the results of the survey is shown in the following tables.

EMPLOYED PERSONS AGED 15 AND OVER: AGE AND WHETHER WORKED AT OR EMPLOYED AT HOME, APRIL 1989

('000)

	Employed				
		Worked some hours at home			
Age	*Worked no hours at home*	*Usually worked less hours at home than elsewhere*	*Persons employed at home*	*Total(a)*	*Total*
		MALES			
15–24	857.1	46.2	4.3	73.9	931.0
25–34	959.4	224.9	13.2	264.4	1,223.8
35–44	774.9	307.7	26.3	367.8	1,142.6
45–54	529.8	180.4	17.0	232.5	762.2
55–64	317.0	76.1	14.0	117.3	434.3
65 and over	37.3	14.3	5.5	32.4	69.7
Total	*3,475.5*	*849.6*	*80.3*	*1,088.2*	*4,563.7*
		FEMALES			
15–24	762.7	36.4	7.7	50.0	812.6
25–34	629.9	129.7	57.0	199.3	829.2
35–44	582.4	142.7	62.0	227.9	810.3
45–54	358.7	66.8	37.4	123.7	482.4
55–64	113.4	20.7	18.2	51.1	164.5
65 and over	10.4	*2.2	4.0	10.1	20.5
Total	*2,457.6*	*398.5*	*186.2*	*662.0*	*3,119.6*
		PERSONS			
15–24	1,619.8	82.6	12.0	123.9	1,743.7
25–34	1,589.3	354.6	70.2	463.6	2,053.0
35–44	1,357.3	450.4	88.3	595.7	1,952.9
45–54	888.5	247.2	54.4	356.1	1,244.7
55–64	430.4	96.7	32.1	168.4	598.8
65 and over	47.7	16.6	9.6	42.5	90.2
Total	**5,933.0**	**1,248.1**	**266.6**	**1,750.2**	**7,683.2**

(a) Includes 235,400 persons comprising farmers (ASCO unit groups 1401 and 8201) who worked more hours at home than away in their main job, unpaid voluntary workers and persons who worked less than one hour at home.

PERSONS EMPLOYED AT HOME: NUMBER OF HOURS USUALLY WORKED AT HOME AND WHETHER ALL HOURS USUALLY WORKED AT HOME, APRIL 1989

('000)

Number of hours usually worked at home	*All hours usually worked at home*			*Some hours usually worked at home*			*Total*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Under 20	6.4	69.6	76.1	11.7	29.1	40.9	18.2	98.8	116.9
20–29	3.7	21.3	25.0	6.4	9.6	16.0	10.1	30.9	41.1
30–34	*1.8	7.2	9.0	5.9	4.4	10.3	7.7	11.6	19.3
35–39	*2.3	6.7	8.9	4.4	*2.8	7.2	6.7	9.5	16.1
40 and over	19.7	27.7	47.4	18.0	7.8	25.7	37.7	35.4	73.1
Total	**33.9**	**132.5**	**166.4**	**46.4**	**53.8**	**100.2**	**80.3**	**186.2**	**266.6**

PERSONS EMPLOYED AT HOME: INDUSTRY AND WHETHER JOB WORKED AT HOME WAS MAIN JOB, APRIL 1989
('000)

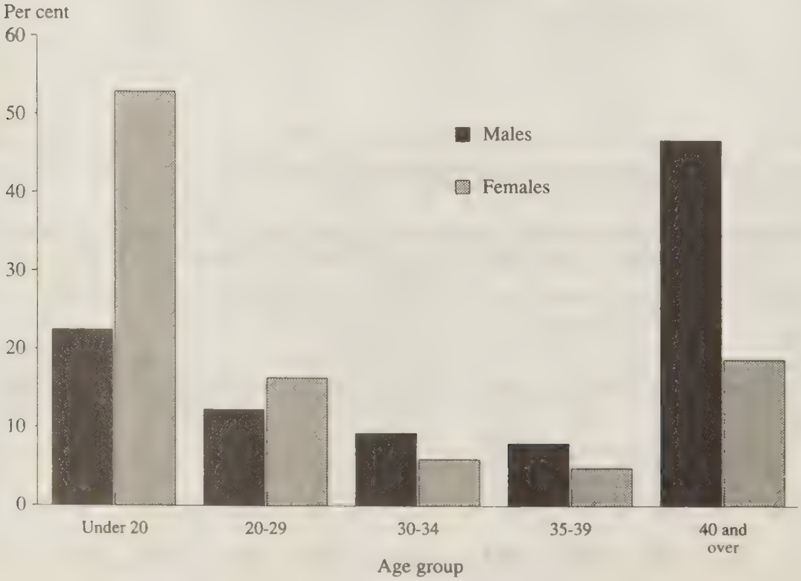
	Whether job worked at home was main job		
Industry	*Main job*	*Second job*	*Total*
Agriculture, forestry, fishing and hunting	8.7	*0.4	9.1
Manufacturing	31.9	*2.5	34.4
Construction	35.6	*2.3	37.9
Wholesale and retail trade	42.4	4.7	47.1
Transport and storage	8.5	*0.8	9.3
Finance, property and business services	41.1	6.0	47.1
Community services	37.7	3.5	41.2
Recreation, personal and other services	32.9	4.4	37.2
Other *(a)*	*2.7	*0.5	*3.2
Total	**241.5**	**25.0**	**266.6**

(a) Includes mining, electricity, gas and water, communication and public administration and defence.

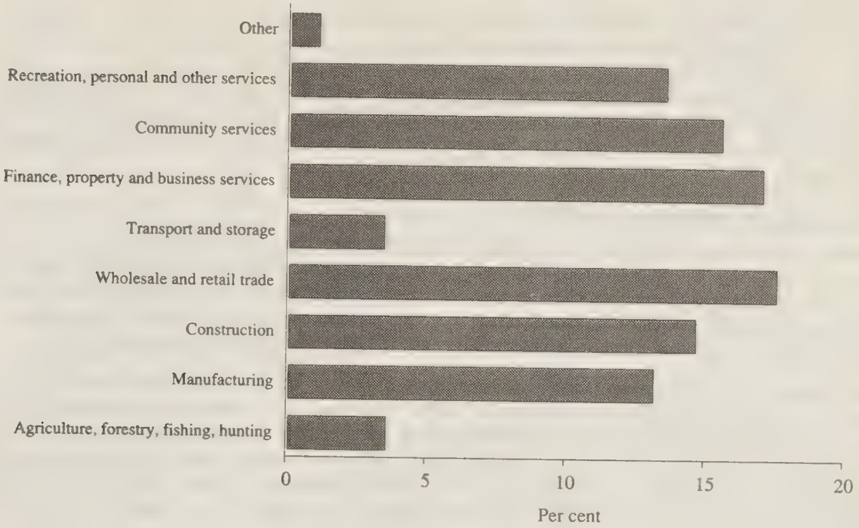
Of those persons employed at home, 44 per cent usually worked less than 20 hours a week at home and 27 per cent usually worked over 40 hours.

Persons employed at home in their main job numbered 241,500. Of these persons 18 per cent were in wholesale and retail trade, 17 per cent were in finance, property and business services and a further 16 per cent were in community services.

PERSONS EMPLOYED AT HOME: DISTRIBUTION OF TOTAL HOURS USUALLY WORKED AT HOME, APRIL 1989



PERSONS EMPLOYED AT HOME: INDUSTRY OF MAIN JOB, APRIL 1989



Wage Rates, Earnings and Income

Industrial conciliation and arbitration

Legal minimum rates of pay for some 90 per cent of Australian wage and salary earners are prescribed in awards and determinations of Federal and State industrial tribunals or in collective agreements registered with them.

In June 1983 the Australian Conciliation and Arbitration Commission met to consider the formulation of new wage fixing principles in relation to the determination of national wage adjustments based on movements in the consumer price index (CPI).

On 23 September 1983, the Commission announced that it would try once again to operate a centralised system based on prima facie full indexation. Under this new system, the Commission was to adjust its award wages and salaries every six months in relation to the last two quarterly movements of the CPI unless it was persuaded to the contrary.

The subsequent round of hearings in February–March 1984 resulted in the recommendation of a 4.1 per cent increase based on CPI movements for the September and December 1983 quarters.

The hearings in February–March 1985 resulted in the recommendation of a 2.6 per cent increase based on CPI movements for the September and December 1984 quarters.

Following the National Wage Case hearings in October 1985, the Commission awarded an increase of 3.8 per cent to operate from the beginning of the first pay period to commence on or after 4 November 1985. The Commission also decided to defer discounting of wages for the price effects of devaluation until the next National Wage Case hearings.

In July 1986 the Commission awarded a 2.3 per cent increase, effective from 1 July 1986 in all States, except Queensland where it was effective from 7 July 1986.

In March 1987, a two tier wage fixing system superseded the CPI-based indexation. The first tier was a flat increase of $10 per week payable to all employees. The second tier was a percentage increase of up to 4 per cent, a maximum rate set by the Commission, negotiable between employees and employers.

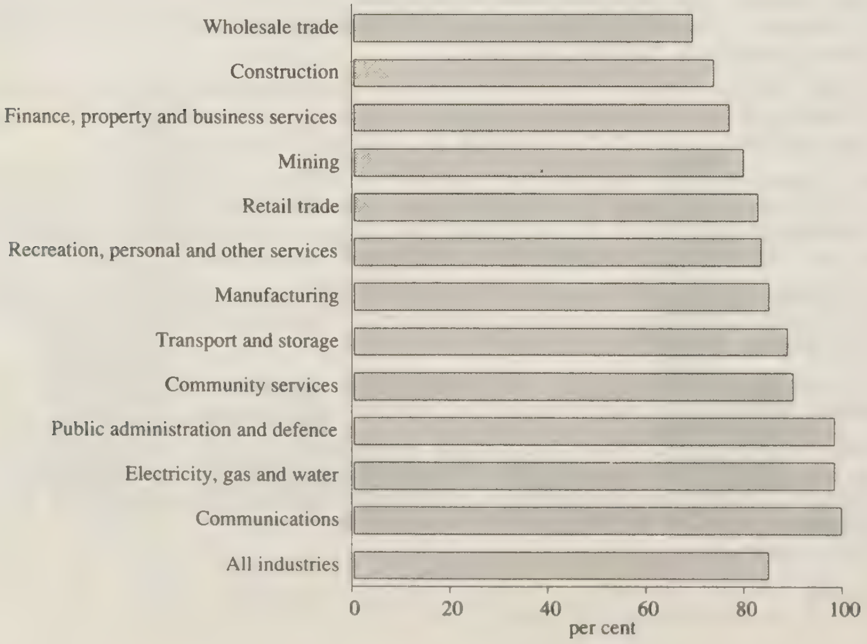
In February 1988, the Commission awarded a flat $6 which was effective from 5 February 1988. In September 1988, the Commission again handed down a decision which allowed for a pay increase which was to be paid in two parts. The first part was an increase of 3 per cent which was payable from 1 September 1988 and the second was an increase of $10 which was not to be available less than 6 months after the first increase. Both increases were based on the Structural Efficiency principles as laid down by the Commission.

Incidence of industrial awards

Details are shown of the award coverage of employees obtained as a part of a sample survey conducted in May 1985. The survey was designed primarily to provide statistics of the distribution and composition of weekly earnings and hours of employees. The award coverage estimates shown are based on responses to a question which asked if employees had coverage under an award, determination, or registered collective agreement.

Employees covered by awards, etc. are employees whose rates of pay and conditions of work are normally varied in accordance with variations in a specific federal or State award, determination or collective agreement or a specific unregistered collective agreement (unregistered collective agreements dealing only with over-award pay are not included). Employees not covered by awards, etc. are those employees whose rates of pay and conditions of work are not varied in accordance with variations in a specific Federal or State award, etc.

INCIDENCE OF AWARDS: ALL EMPLOYEES BY INDUSTRY
PERCENTAGE OF EMPLOYEES COVERED, MAY 1985



INCIDENCE OF AWARDS: ALL EMPLOYEES BY INDUSTRY, MAY 1985
(per cent)

	Males				*Females*			
	Covered by awards, determinations and collective agreements			*Not covered by awards, etc.*	*Covered by awards, determinations and collective agreements*			*Not covered by awards, etc.*
Industry	*Federal*	*State*	*Total(a)*		*Federal*	*State*	*Total(a)*	
Mining	53.1	26.2	81.9	18.1	*29.7	*27.4	*60.9	*39.1
Manufacturing	48.9	32.5	84.0	16.0	39.7	46.7	87.9	12.1
Food, beverages and tobacco	25.5	56.3	85.7	14.3	20.4	69.1	91.4	*8.6
Textiles; Clothing and footwear	56.7	*23.0	80.7	*19.3	63.2	30.7	94.2	*5.8
Paper, paper products, printing and publishing	45.4	28.8	84.9	15.1	*33.5	44.0	80.6	*19.4
Chemicals, petroleum and coal	36.2	32.5	70.7	29.3	*21.3	59.3	81.1	*18.9
Metal products, machinery and equipment	62.3	22.1	85.6	14.4	49.3	37.3	88.3	*11.7
Basic metal products	38.8	46.3	85.7	*14.3	*29.1	*48.6	*77.7	*22.3
Fabricated metal products; Other machinery and equipment	61.0	17.8	80.6	19.4	42.1	42.2	86.6	*13.4
Transport equipment	80.0	13.6	94.0	*6.0	75.2	*20.4	96.0	—
Other manufacturing	39.7	41.1	82.6	17.4	*25.2	54.6	80.9	*19.1
Electricity, gas and water	38.6	59.9	98.5	—	*44.0	*54.3	98.3	—
Construction	35.4	38.9	77.0	23.0	*10.8	42.0	56.0	44.0
Wholesale trade	28.1	33.4	66.2	33.8	11.8	62.2	77.2	22.8
Retail trade	30.4	45.8	77.9	22.1	6.3	80.5	87.5	12.5
Transport and storage	55.3	31.5	90.6	9.4	47.2	29.7	79.3	*20.7
Communication	99.8	—	99.9	—	99.6	—	99.9	—
Finance, property and business services	32.1	28.7	69.1	30.9	29.1	46.4	84.2	15.8
Public administration and defence	53.4	44.3	98.6	—	64.7	32.3	98.2	—
Community services	14.0	72.9	88.4	11.6	6.9	82.6	90.9	9.1
Recreation, personal and other services	31.6	46.6	81.1	18.9	27.3	56.5	85.2	*14.8
All industries	**40.0**	**40.5**	**83.4**	**16.6**	**21.6**	**63.4**	**87.4**	**12.6**

(a) Includes small numbers of employees covered by unregistered collective agreements.

INCIDENCE OF AWARDS: ALL EMPLOYEES BY OCCUPATION GROUP, MAY 1985
(per cent)

	Males				*Females*			
	Covered by awards, determinations and collective agreements			*Not covered by awards, etc.*	*Covered by awards, determinations and collective agreements*			*Not covered by awards, etc.*
Occupational group	*Federal*	*State*	*Total(a)*		*Federal*	*State*	*Total(a)*	
Professional, technical and related employees	27.7	48.9	78.9	21.1	8.8	81.2	92.1	7.9
Nurses	—	97.5	100.0	—	*4.6	93.9	99.0	*1.0
Teachers	13.0	77.7	93.1	*6.9	6.1	86.3	95.0	*5.0
Draftspersons and technicians	46.5	35.9	84.3	15.7	*23.8	61.0	86.8	*13.2
Other professionals	31.3	30.6	64.6	35.4	20.1	47.6	71.7	28.3
Administrative, executive and managerial employees	15.7	13.0	34.8	65.2	—	—	—	66.0
Clerical employees	48.6	33.4	87.0	13.0	27.9	53.4	85.4	14.6
Sales employees	17.7	57.1	78.2	21.8	4.2	83.4	88.6	11.4
Farmers, fisherpersons and related employees	*25.1	61.0	87.5	*12.5	*10.8	*76.2	*91.6	*8.4
Miners, quarry and related employees	57.1	*26.9	86.6	*13.4	—	—	—	—
Employees in transport and communications	49.9	38.3	91.7	8.3	*41.0	44.1	88.2	*11.8
Tradespersons, production-process employees and labourers, n.e.c.	52.9	37.7	92.5	7.5	53.8	40.0	94.8	5.2
Textile, clothing, footwear and leather goods makers and related employees	60.4	*37.1	93.5	*6.5	64.4	32.6	97.2	*2.8
Machine toolmakers, metal machinists, mechanics, plumbers and related metal employees	63.8	27.2	92.3	7.7	*50.9	*40.6	*91.5	*8.5
Electricians and related electrical and electronics employees	67.1	27.6	95.7	*4.3	*93.6	*3.0	*96.7	*3.3
Metalmaking and related employees	68.3	26.8	95.5	*4.5	90.4	*5.2	95.7	*4.3
Carpenters, cabinetmakers and related employees, building etc. tradespersons and construction employees	41.5	44.2	87.3	12.7	*27.3	*57.8	*85.2	*14.8
Packers, wrappers, labellers, storepersons and freight handlers	41.1	50.9	94.3	*5.7	*25.8	67.2	94.1	*5.9
Labourers, apprentices, factory employees, n.e.c.	42.5	47.5	92.8	7.2	*48.1	*41.9	92.7	*7.3
Service, sport and recreation employees	20.1	71.2	92.3	*7.7	17.8	71.5	90.0	*10.0
Other	97.2	—	97.2	—	—	—	79.9	—
All occupations	**40.0**	**40.5**	**83.4**	**16.6**	**21.6**	**63.4**	**87.4**	**12.6**

(a) Includes small numbers of employees covered by unregistered collective agreements.

Award rates of pay indexes

The award rates of pay indexes are based on a representative sample of award designations, designed to measure trends in rates payable under awards. The indexes are based on the occupation structure existing in May 1985. The base period chosen for the indexes is June 1985. Estimates of minimum award rates of pay for each component of the series are expressed as index numbers such that June 1985=100.0.

WEEKLY AWARD RATES OF PAY INDEXES FULL-TIME ADULT EMPLOYEES: INDUSTRY, AUSTRALIA

(Base: Weighted Average Minimum Award Rate, June 1985=100.0)
(Index Numbers)

	Males			*Females*		
	1986	*1987*	*1988*	*1986*	*1987*	*1988*
Industry			—*December*—			
Mining	106.1	112.3	116.2	106.1	113.3	120.2
Manufacturing	106.2	111.7	118.3	106.3	111.9	120.4
Food, beverages, tobacco	106.3	110.7	117.1	106.5	111.1	118.0
Textiles; clothing, and footwear	106.2	112.1	122.0	106.2	112.7	123.0
Paper, paper products, printing and publishing	106.2	111.0	117.8	106.2	111.2	119.4
Chemicals, petroleum, and coal	106.3	110.9	117.5	106.5	110.5	118.0
Metal products, machinery and equipment	106.2	112.0	117.9	106.2	112.4	119.8
Basic metal products	106.2	111.0	116.5	106.2	111.1	117.6
Fabricated metal products; Other machinery and equipment	106.2	112.8	119.7	106.2	112.4	120.2
Transport equipment	106.2	111.7	117.2	106.2	112.7	119.9
Other manufacturing *(a)*	106.2	112.2	120.7	106.2	111.5	121.6
Electricity, gas and water	106.3	110.3	114.5	106.4	111.0	116.4
Construction	106.2	110.9	117.0	106.2	110.5	117.9
Wholesale and retail trade	106.2	110.7	117.5	106.2	110.3	118.4
Wholesale trade	106.2	111.0	118.4	106.2	110.5	119.1
Retail trade	106.2	110.4	116.7	106.2	110.2	118.1
Transport and storage	106.2	110.4	116.0	106.2	110.6	115.2
Communication	106.2	111.9	118.7	106.3	113.1	120.3
Finance, property and business services	106.2	109.7	115.3	106.2	110.2	116.9
Public administration and defence *(b)*	106.3	109.3	115.5	106.2	109.5	117.4
Community services	106.5	109.3	114.4	107.7	111.5	118.0
Recreation, personal and other services	106.3	110.5	117.4	106.2	110.3	117.1
Total all industries *(c)*	**106.3**	**110.6**	**116.6**	**106.8**	**111.1**	**118.2**

(a) Includes wood, wood products and furniture; non-metallic mineral products; and miscellaneous manufacturing. *(b)* Excludes employees in the defence forces. *(c)* Excludes employees in the defence forces; agriculture; services to agriculture; and employees in private households employing staff.

Average weekly earnings

Statistics of average weekly earnings are produced quarterly, and are based on employment and earnings information obtained from a sample survey of employers. They relate to earnings of employees in respect of one week's earnings from a single pay period ending on or before the third Friday of the middle month of the quarter. If, for a particular survey respondent, that pay period was affected unduly by an industrial dispute, plant breakdown, fire, etc., particulars for the previous normal pay period were obtained. Weekly total earnings are gross earnings in a pay period, while weekly ordinary time earnings refers to that part of weekly total earnings attributable to award, standard or agreed hours of work.

Statistics of average weekly earnings are published in the quarterly publication *Average Weekly Earnings, States and Australia* (6302.0). The current series was introduced in November 1983, to complete the redevelopment of average weekly earnings series from that based principally on information from payroll tax returns. Average weekly earnings statistics were revised back to August 1981 with the introduction of the new series.

AVERAGE WEEKLY EARNINGS OF EMPLOYEES, AUSTRALIA

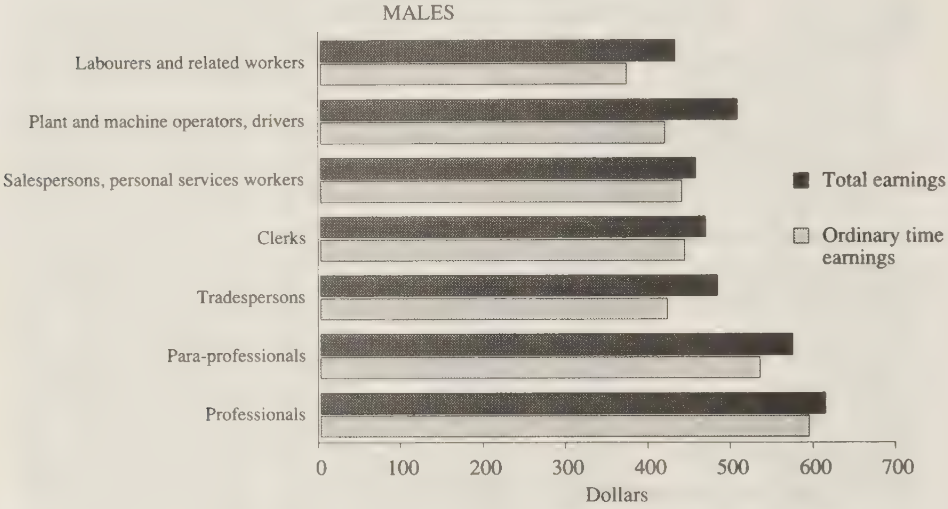
	Males			*Females*			*Persons*		
	Full-time adults		*All males*	*Full-time adults*		*All females*	*Full-time adults*		*All employees*
Reference period—pay period ending on or before	*Average weekly ordinary time earnings*	*Average weekly total earnings*	*Average weekly total earnings*	*Average weekly ordinary time earnings*	*Average weekly total earnings*	*Average weekly total earnings*	*Average weekly ordinary time earnings*	*Average weekly total earnings*	*Average weekly total earnings*
				—dollars—					
1985—									
15 February	399.60	429.00	392.70	328.40	335.90	260.10	377.50	400.10	340.10
17 May	404.50	435.50	397.20	334.40	343.10	263.40	382.80	406.90	344.10
16 August	409.80	441.60	403.10	338.70	346.80	265.00	387.90	412.50	347.80
15 November	419.60	453.60	413.90	345.30	353.70	268.40	396.90	423.10	355.60
1986—									
21 February	427.20	460.10	422.70	352.80	360.60	276.40	404.20	429.50	364.10
16 May	432.60	465.90	425.50	356.40	364.90	278.20	409.20	434.90	366.50
15 August	444.00	476.20	437.20	363.60	371.90	282.90	418.90	443.70	373.70
21 November	452.10	488.60	446.30	372.70	382.00	287.60	427.20	455.20	380.60
1987—									
20 February	454.40	487.70	444.50	375.70	384.10	291.00	429.60	455.10	381.30
15 May	461.30	497.40	450.90	383.00	393.10	298.90	436.20	464.00	387.30
21 August	470.30	504.50	457.00	388.90	398.20	302.30	444.20	470.50	392.50
20 November	477.50	516.30	470.00	392.00	401.90	306.50	450.10	479.70	401.80
1988—									
19 February	485.70	522.40	474.90	402.20	412.20	315.30	458.80	486.90	408.80
20 May	491.40	532.40	481.70	409.20	419.50	316.40	464.80	495.80	411.90
19 August	497.80	538.80	486.20	415.00	426.40	319.60	470.90	502.40	415.70
18 November	512.70	558.90	505.20	426.80	439.60	328.70	484.90	520.20	430.10
1989—									
17 February	521.90	563.70	511.60	431.30	443.30	334.80	492.30	524.30	436.30

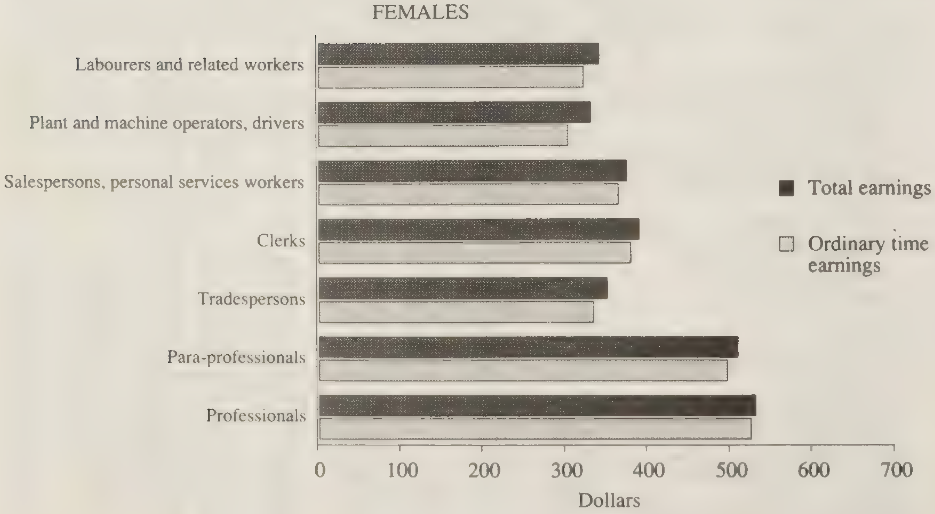
In the November survey, additional information is collected relating to part-time and junior employees, managerial staff and hours of work.

FULL-TIME NON-MANAGERIAL EMPLOYEES: AVERAGE EARNINGS AND HOURS PAID FOR, INDUSTRIES AUSTRALIA, NOVEMBER 1988

	Males			*Females*			*Persons*		
	Average weekly earnings ($)	*Average weekly hours paid for*	*Average hourly earnings ($)*	*Average weekly earnings ($)*	*Average weekly hours paid for*	*Average hourly earnings ($)*	*Average weekly earnings ($)*	*Average weekly hours paid for*	*Average hourly earnings ($)*
ADULT EMPLOYEES									
Mining	749.60	43.6	17.19	523.90	40.9	12.81	728.30	43.3	16.80
Manufacturing	512.60	42.5	12.06	378.50	39.4	9.60	479.10	41.7	11.48
Food, beverages and tobacco	496.90	43.2	11.51	396.40	40.5	9.78	471.30	42.5	11.09
Textiles; clothing and footwear	477.10	43.5	10.97	334.00	38.7	8.63	391.60	40.6	9.64
Paper, paper products, printing and publishing	558.00	40.8	13.68	406.20	38.9	10.44	516.50	40.3	12.83
Chemical, petroleum and coal products	601.40	41.5	14.49	446.40	38.3	11.66	555.70	40.6	13.70
Metal products, machinery and equipment	520.70	42.5	12.24	384.70	39.6	9.71	496.30	42.0	11.81
Basic metal products	578.70	42.3	13.69	446.40	38.7	11.53	568.10	42.0	13.53
Fabricated metal products; other machinery and equipment	502.40	43.1	11.66	375.60	39.5	9.51	472.60	42.2	11.19
Transport equipment	506.00	41.9	12.09	387.40	40.3	9.62	488.50	41.6	11.73
Other manufacturing	473.70	42.6	11.12	365.10	39.6	9.22	450.50	42.0	10.74
Electricity, gas and water	546.90	39.3	13.90	433.10	37.1	11.69	536.50	39.1	13.71
Construction	567.40	42.2	13.44	411.60	38.8	10.60	555.70	42.0	13.25
Wholesale and retail trade	443.70	40.8	10.87	368.50	38.9	9.46	418.80	40.2	10.42
Wholesale trade	461.00	40.6	11.35	400.80	38.7	10.34	445.70	40.2	11.10
Retail trade	422.80	41.0	10.30	349.00	39.0	8.94	392.90	40.2	9.77
Transport and storage	546.50	42.4	12.89	429.30	39.8	10.78	528.10	42.0	12.58
Communication	508.70	38.4	13.24	445.80	38.4	11.62	494.90	38.4	12.88
Finance, property and business services	536.50	39.4	13.60	429.30	38.0	11.28	481.20	38.7	12.43
Public administration and defence	492.30	38.3	12.85	452.40	37.2	12.15	478.60	37.9	12.62
Community services	546.90	38.4	14.25	473.90	37.2	12.73	503.80	37.7	13.36
Recreation, personal and other services	443.70	40.5	10.95	368.70	39.1	9.42	411.60	39.9	10.31
Total all industries	**522.30**	**40.8**	**12.80**	**429.20**	**38.2**	**11.25**	**489.90**	**39.9**	**12.28**
JUNIOR EMPLOYEES									
Mining	430.00	40.1	10.71	299.90	38.1	7.88	400.40	39.7	10.09
Manufacturing	249.10	40.3	6.18	240.00	38.8	6.18	246.90	40.0	6.18
Food, beverages and tobacco	247.70	40.6	6.10	224.40	38.6	5.82	240.80	40.0	6.02
Textiles; clothing and footwear	263.30	40.8	6.45	245.30	38.3	6.41	252.80	39.3	6.43
Paper, paper products, printing and publishing	274.00	39.6	6.91	245.70	38.9	6.32	261.70	39.3	6.66
Chemical, petroleum and coal products	305.50	37.6	8.12	261.90	37.5	6.98	291.40	37.6	7.75
Metal products, machinery and equipment	256.50	39.7	6.46	239.40	38.8	6.17	254.00	39.6	6.42
Basic metal products	292.00	39.5	7.38	270.70	38.1	7.10	290.20	39.4	7.36
Fabricated metal products; other machinery and equipment	248.50	39.8	6.24	232.90	38.7	6.02	245.70	39.6	6.20
Transport equipment	257.70	39.4	6.54	259.90	39.7	6.54	257.90	39.5	6.54
Other manufacturing	226.00	41.4	5.46	235.70	39.7	5.94	227.50	41.1	5.53
Electricity, gas and water	308.00	37.7	8.16	288.10	37.0	7.78	303.30	37.6	8.07
Construction	286.40	40.1	7.14	225.10	37.9	5.94	281.10	39.9	7.04
Wholesale and retail trade	223.70	39.9	5.61	222.40	38.8	5.74	223.20	39.4	5.66
Wholesale trade	240.00	39.0	6.15	251.70	39.4	6.38	244.50	39.2	6.24
Retail trade	220.30	40.1	5.50	217.70	38.7	5.63	219.20	39.5	5.55
Transport and storage	265.50	39.0	6.80	248.10	38.3	6.48	259.10	38.7	6.69
Communication	273.10	38.1	7.17	259.30	37.7	6.88	268.60	37.9	7.08
Finance, property and business services	260.90	38.9	6.70	249.90	38.3	6.53	253.20	38.5	6.58
Public administration and defence	276.50	37.5	7.37	275.00	37.0	7.43	275.60	37.2	7.41
Community services	268.40	39.0	6.88	259.40	37.8	6.86	261.10	38.0	6.87
Recreation, personal and other services	230.30	40.7	5.65	180.80	39.7	4.56	191.40	39.9	4.80
Total all industries	**251.40**	**39.8**	**6.32**	**236.40**	**38.5**	**6.14**	**244.50**	**39.2**	**6.24**

AVERAGE WEEKLY ORDINARY TIME AND TOTAL EARNINGS OF FULL-TIME ADULT NON-MANAGERIAL EMPLOYEES IN MAJOR ASCO OCCUPATIONAL GROUPS, MAY 1988





Distribution and composition of earnings

Statistics on the distribution of employees according to weekly earnings and hours, and the composition of weekly earnings and hours for various categories of employees and principal occupations are produced from a survey of employers currently conducted in May each year.

Employers selected are requested to supply relevant details, for a sample of their employees randomly selected by the employers in accordance with instructions supplied by the ABS. Employers with fewer than eleven employees are required to complete a questionnaire for every employee.

The information presented in this sub-section relates solely to the earnings data collected in the May 1988 survey. The table below sets out the composition of average weekly earnings of employees by State and Territory.

COMPOSITION OF AVERAGE WEEKLY TOTAL EARNINGS: ALL EMPLOYEES, STATES AND TERRITORIES, MAY 1988
($)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
MALES									
Overtime	39.70	36.10	33.00	25.60	49.00	34.10	46.20	29.40	37.20
Ordinary time—									
Award or agreed base rate of pay	436.60	429.00	407.20	408.40	451.10	415.10	458.00	535.60	431.20
Payment by measured result *(a)*	7.20	2.70	6.20	*4.70	5.60	3.20	*3.30	*5.00	5.30
Over-award and other pay	17.30	9.50	7.30	5.80	5.10	4.10	7.50	*0.80	7.40
Total	**490.80**	**477.30**	**453.70**	**444.50**	**510.90**	**456.40**	**514.90**	**570.90**	**481.00**
FEMALES									
Overtime	8.20	7.80	5.40	5.50	6.60	4.90	7.40	7.10	7.20
Ordinary time—									
Award or agreed base rate of pay	315.60	306.00	288.10	284.80	292.40	284.40	340.50	363.70	305.20
Payment by measured result *(a)*	0.70	1.00	*0.70	*0.70	*0.60	*0.20	0.40	*0.10	0.80
Over-award and other pay	3.40	3.90	1.60	1.10	1.30	0.70	*1.20	*1.20	2.80
Total	**328.00**	**318.80**	**295.90**	**292.20**	**301.00**	**290.20**	**349.50**	**372.00**	**316.00**
PERSONS									
Overtime	26.60	23.80	21.50	17.10	31.00	21.40	28.80	19.30	24.50
Ordinary time—									
Award or agreed base rate of pay	386.20	375.50	357.70	356.20	383.40	358.00	405.40	457.20	377.70
Payment by measured result *(a)*	4.50	2.00	3.90	*3.00	3.50	1.90	*2.00	*2.80	3.40
Over-award and other pay	5.70	7.10	4.90	3.80	3.50	2.60	4.70	*1.00	5.40
Total	**422.90**	**408.30**	**388.10**	**380.10**	**421.40**	**383.80**	**440.90**	**480.20**	**410.90**

(a) Earnings which vary according to measured performance (e.g. piecework, production and task bonuses or commission).

Average weekly ordinary time earnings can vary across occupations, and this is shown in the accompanying charts. Occupation is classified to the Australian Standard Classification of Occupations (ASCO). Details of ASCO can be found in *ASCO, First Edition Statistical Classification* (1222.0) which was released in September 1986. An *Information Paper: ASCO—Australian Standard Classification of Occupations: Introduction to ASCO Publications—First Edition* (1221.0) was also released at that time.

In 1988, males in the 'Professionals' group had the highest average weekly earnings while those in 'Labourers and related workers' had the lowest. For females, the occupation group with the highest average weekly earnings was 'Professionals' and the lowest was 'Plant and machine operators, and drivers'.

Non-wage Benefits

The previous section concentrated on monetary remuneration for employment. In this section, attention is given to a range of benefits other than wages, salaries and supplements that may arise from employment. Benefits covered are employer-provided concessions or allowances such as holiday costs, low interest finance, goods and services, housing, electricity, telephone, transport, medical, union dues, club fees, entertainment, shares, study leave, superannuation or children's education expenses.

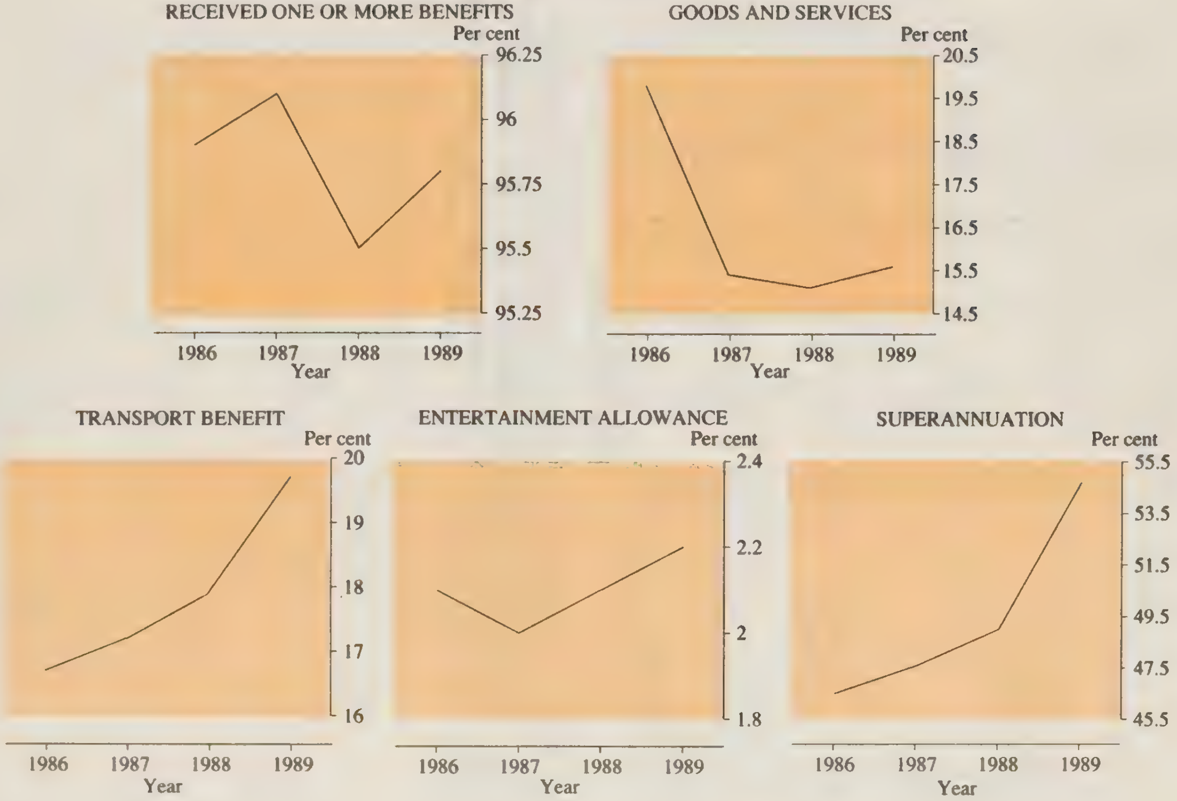
Other than leave provisions, which were available to more than two-thirds of employees, superannuation was the most regularly received benefit. The incidence of this benefit was considerably proportionally higher for males than for females in every occupation group.

The survey also showed that employees at the highest levels of earnings were more likely to receive non-wage benefits. The exceptions were goods and services and annual and sick leave. Children's education expenses were rarely provided. There was also an increased likelihood of receiving benefits as employees' hours of work increased.

ALL EMPLOYEES: TYPE OF BENEFIT RECEIVED AND WEEKLY EARNINGS IN MAIN JOB AUGUST 1989

	Weekly earnings in main job (dollars)								
	Under 120	*120 and under 200*	*200 and under 280*	*280 and under 360*	*360 and under 440*	*440 and under 520*	*520 and under 600*	*600 and over*	*Total*
Total employees ('000)	**560.0**	**508.3**	**672.0**	**1,086.9**	**1,092.4**	**835.2**	**596.3**	**1,146.4**	**6,497.4**
				—Percentage of employees receiving benefit—					
Type of benefit—									
Holiday expenses	*0.5	*0.6	2.1	2.3	3.6	4.7	5.5	6.5	3.6
Low-interest finance	*0.1	0.9	1.8	1.8	2.5	3.1	3.5	4.9	2.6
Goods and services	21.4	19.2	18.4	18.1	16.1	13.9	13.1	12.8	16.2
Housing	1.9	2.5	2.4	2.3	2.0	3.5	3.5	6.4	3.2
Electricity	1.7	2.0	1.8	1.2	1.5	1.8	1.6	3.2	1.9
Telephone	3.7	3.6	4.7	3.8	5.6	9.0	11.8	19.7	8.4
Transport	5.8	6.7	8.1	8.9	13.2	20.6	24.6	35.6	16.7
Medical	1.1	1.5	2.4	2.4	2.5	3.5	4.5	7.2	3.4
Union dues	0.7	1.0	1.3	1.8	1.7	2.8	3.1	7.0	2.7
Club fees	*0.5	*0.3	0.6	0.5	0.8	1.2	1.7	4.6	1.5
Entertainment allowance	*0.1	*0.3	0.6	0.4	0.7	1.7	2.3	6.1	1.8
Shares	*0.5	0.7	0.9	1.3	1.9	2.9	3.5	5.5	2.4
Study leave	1.6	1.6	1.4	2.0	2.3	2.3	3.3	3.8	2.4
Superannuation	4.7	18.6	29.2	42.8	52.3	59.1	65.2	70.4	46.8
Child care/education expenses	*0.4	*0.3	*0.2	*0.1	*0.2	*0.3	*0.3	0.7	0.3
Sick leave	10.4	50.5	70.0	86.1	90.3	91.9	94.0	91.8	78.3
Annual leave	10.3	50.7	71.1	86.9	90.9	92.3	93.9	92.2	78.8
Long-service leave	8.2	33.8	49.8	66.4	75.0	78.9	83.6	81.8	64.4

FULL-TIME EMPLOYEES: SELECTED BENEFITS RECEIVED, AUGUST 1986 TO 1989


RECEIVED ONE OR MORE BENEFITS

GOODS AND SERVICES

TRANSPORT BENEFIT

ENTERTAINMENT ALLOWANCE

SUPERANNUATION

ALL EMPLOYEES: TYPE OF BENEFIT RECEIVED AND HOURS WORKED IN MAIN JOB AUGUST 1989

	Hours worked in main job—						
	Under 20	*20–29*	*30–34*	*35–39*	*40*	*41 and over*	*Total*
Total employees ('000)	**1,153.1**	**520.6**	**504.8**	**1,277.3**	**1,301.2**	**1,740.4**	**6,497.4**
	—Percentage of employees receiving benefit—						
Type of benefit—							
Holiday expenses	2.4	2.4	3.8	3.2	3.8	4.7	3.6
Low-interest finance	1.2	2.9	3.0	2.8	2.7	3.0	2.6
Goods and services	18.5	17.4	15.0	14.0	13.7	18.2	16.2
Housing	1.6	1.2	2.1	1.8	3.6	6.1	3.2
Electricity	1.1	0.7	1.1	0.8	1.9	3.8	1.9
Telephone	4.5	4.2	7.4	4.9	7.1	15.9	8.4
Transport	8.4	8.2	12.6	11.6	15.8	30.5	16.7
Medical	1.8	2.8	3.8	3.1	3.5	4.8	3.4
Union dues	1.0	1.4	2.2	1.8	1.8	5.8	2.7
Club fees	0.6	*0.6	0.8	0.7	1.1	3.3	1.5
Entertainment allowance	0.4	*0.4	1.1	0.8	1.8	4.0	1.8
Shares	1.1	1.0	1.7	1.9	2.4	4.2	2.4
Study leave	1.8	1.8	3.0	2.9	2.2	2.5	2.4
Superannuation	23.7	34.3	51.4	55.6	49.0	56.5	46.8
Child care/education expenses	*0.3	*0.0	*0.1	*0.2	*0.2	0.6	0.3
Sick leave	38.2	0.0	81.3	92.6	91.5	89.1	78.3
Annual leave	38.2	60.6	81.1	93.1	92.0	90.0	78.8
Long-service leave	32.6	49.5	71.0	78.9	73.3	70.9	64.4

Labour Costs

Major labour costs statistics are produced from an annual survey of employers. This survey was conducted in respect of both private and public sector employers for the second time in 1988 and collected costs incurred by employers for gross wages and salaries; severance, termination and redundancy payments; superannuation contributions; workers' compensation; payroll tax; and fringe benefits tax for the year ended 30 June 1988.

TOTAL LABOUR COSTS, PRIVATE AND PUBLIC SECTORS: TYPE OF LABOUR COST AND INDUSTRY, 1987-88

Type of cost	*Mining*	*Manufacturing*	*Electricity, gas and water*	*Construction*	*Wholesale and retail trade*	*Transport, storage and communication*	*Finance, property and business services*	*Public administration and defence*	*Community services*	*Recreation, personal and other services*	*Total*
					TOTAL COSTS ($ million)						
Earnings	*3,045*	*24,353*	*3,494*	*6,435*	*19,237*	*10,730*	*17,918*	*7,323*	*27,847*	*6,479*	*126,861*
Gross wages and salaries	2,832	23,673	3,329	6,308	18,866	10,416	17,447	7,143	27,395	6,382	123,791
Severance, termination and redundancy payments	213	680	165	127	371	314	471	180	453	97	3,071
Other labour costs	*454*	*3,105*	*580*	*897*	*1,835*	*1,624*	*2,397*	*960*	*2,818*	*512*	*15,182*
Payroll tax	153	1,157	193	201	656	338	826	96	574	206	4,401
Superannuation	135	896	274	346	573	927	1,077	639	1,690	*136	6,694
Workers' compensation	118	923	102	308	431	321	177	202	514	144	3,240
Fringe benefits tax	48	129	11	*42	174	38	318	23	41	25	848
Total labour costs	**3,499**	**27,458**	**4,074**	**7,332**	**21,073**	**12,354**	**20,315**	**8,283**	**30,666**	**6,990**	**142,043**
					RATIO OF OTHER LABOUR COSTS TO EARNINGS (per cent)						
Payroll tax	5.0	4.8	5.5	3.1	3.4	3.2	4.6	1.3	2.1	3.2	3.5
Superannuation	4.4	3.7	7.9	5.4	3.0	8.6	6.0	8.7	6.1	*2.1	5.3
Workers' compensation	3.9	3.8	2.9	4.8	2.2	3.0	1.0	2.8	1.9	2.2	2.6
Fringe benefits tax	1.6	0.5	0.3	0.7	0.9	0.4	1.8	0.3	0.2	0.4	0.7
Other labour costs	**14.9**	**12.8**	**16.6**	**13.9**	**9.5**	**15.1**	**13.4**	**13.1**	**10.1**	**7.9**	**12.0**

TOTAL LABOUR COSTS, PRIVATE AND PUBLIC SECTORS: TYPE OF LABOUR COST AND INDUSTRY, 1987-88

Type of cost	*Mining*	*Manufacturing*	*Electricity, gas and water*	*Construction*	*Wholesale and retail trade*	*Transport, storage and communication*	*Finance, property and business services*	*Public administration and defence*	*Community services*	*Recreation, personal and other services*	*Total*
AVERAGE COSTS PER EMPLOYEE											
						—dollars—					
Earnings	*37,768*	*23,406*	*28,936*	*23,618*	*16,776*	*25,578*	*24,581*	*23,393*	*22,059*	*12,032*	*21,417*
Gross wages and salaries	35,124	22,752	27,573	23,152	16,452	24,829	23,935	22,819	21,701	11,853	20,899
Severance, termination and redundancy payments	2,644	654	1,364	466	324	749	646	574	358	179	518
Other labour costs	*5,633*	*2,984*	*4,804*	*3,291*	*1,601*	*3,871*	*3,289*	*3,067*	*2,233*	*950*	*2,563*
Payroll tax	1,899	1,112	1,599	738	572	805	1,133	306	454	383	743
Superannuation	1,671	861	2,272	1,269	500	2,210	1,478	2,043	1,339	*253	1,130
Workers' compensation	1,468	887	846	1,129	376	766	243	644	407	268	547
Fringe benefits tax	595	124	87	154	152	90	436	74	32	47	143
Total labour costs	**43,401**	**26,389**	**33,741**	**26,909**	**18,376**	**29,449**	**27,871**	**26,460**	**24,292**	**12,983**	**23,980**
Superannuation—											
Cost per employee covered	2,165	1,559	2,665	2,573	2,144	3,310	3,190	2,659	3,164	1,916	2,570
						—per cent—					
Employees covered	77.2	55.3	85.2	49.3	23.2	66.8	46.3	76.8	42.3	13.2	44.0
COSTS AS A PERCENTAGE OF TOTAL LABOUR COSTS (per cent)											
Earnings	87.0	88.7	85.8	87.8	91.3	86.9	88.2	88.4	90.8	92.7	89.3
Gross wages and salaries	80.9	86.2	81.7	86.0	89.5	84.3	85.9	86.2	89.3	91.3	87.1
Severance, termination and redundancy payments	6.1	2.5	4.0	1.7	1.8	2.5	2.3	2.2	1.5	1.4	2.2
Other labour costs	*13.0*	*11.3*	*14.2*	*12.2*	*8.7*	*13.1*	*11.8*	*11.6*	*9.2*	*7.3*	*10.7*
Payroll tax	4.4	4.2	4.7	2.7	3.1	2.7	4.1	1.2	1.9	3.0	3.1
Superannuation	3.9	3.3	6.7	4.7	2.7	7.5	5.3	7.7	5.5	*2.0	4.7
Workers' compensation	3.4	3.4	2.5	4.2	2.1	2.6	0.9	2.4	1.7	2.1	2.3
Fringe benefits tax	1.4	0.5	0.3	0.6	0.8	0.3	1.6	0.3	0.1	0.4	0.6
Total labour costs	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Hours of Work and Work Patterns

It is widely recognised that statistics of hours of work and patterns of work are essential for the study of economic activity, productivity, working conditions, living standards and the quality of life of working people. In this section, a range of data has been brought together on work patterns and hours of work.

EMPLOYED PERSONS: AGGREGATE AND AVERAGE WEEKLY HOURS WORKED (a)

		Females			
	Males	*Married*	*Not married*	*Total*	*Persons*
AUGUST 1987					
Aggregate weekly hours worked (million)	170.4	48.1	33.9	82.0	252.4
By full-time workers	165.5	35.0	29.8	64.8	230.3
By part-time workers	4.9	13.1	4.1	17.2	22.1
Average weekly hours worked	39.8	28.0	31.0	29.1	35.6
By full-time workers	41.8	38.4	37.2	37.9	40.6
By part-time workers	15.3	16.2	14.0	15.6	15.5
By wage and salary earners	38.3	27.9	31.0	29.2	34.6
By other than wage and salary earners	46.6	28.2	30.5	28.4	40.8
Average weekly hours worked by persons who worked one hour or more in the reference week	41.9	29.5	32.5	30.7	37.4
By full-time workers	43.9	40.6	39.2	40.0	42.7
By part-time workers	16.2	17.0	14.6	16.4	16.3
AUGUST 1988					
Aggregate weekly hours worked (million)	177.7	51.3	36.8	87.1	264.8
By full-time workers	173.2	37.2	31.5	68.7	241.9
By part-time workers	4.6	14.1	4.2	18.3	22.9
Average weekly hours worked	40.6	28.2	31.1	29.3	36.0
By full-time workers	42.5	38.8	37.6	38.2	41.2
By part-time workers	15.0	16.4	13.6	15.6	15.5
By wage and salary earners	39.1	28.2	31.2	29.5	35.1
By other than wage and salary earners	47.2	27.8	29.1	28.0	40.9
Average weekly hours worked by persons who worked one hour or more in the reference week	42.8	29.8	32.7	30.9	38.0
By full-time workers	44.8	41.1	39.6	40.4	43.5
By part-time workers	16.0	17.3	14.2	16.4	16.3
AUGUST 1989					
Aggregate weekly hours worked (million)	186.2	54.5	38.5	93.0	279.2
By full-time workers	181.1	39.8	33.5	73.2	254.3
By part-time workers	5.1	14.7	5.0	19.7	24.8
Average weekly hours worked	40.7	28.3	31.3	29.5	36.1
By full-time workers	42.9	38.9	38.5	38.7	41.6
By part-time workers	14.4	16.3	14.0	15.6	15.3
By wage and salary earners	39.5	28.3	31.2	29.5	35.3
By other than wage and salary earners	46.3	28.3	33.1	29.0	40.7
Average weekly hours worked by persons who worked one hour or more in the reference week	42.7	29.8	32.7	30.9	37.9
By full-time workers	45.0	41.0	40.1	40.6	43.6
By part-time workers	15.2	17.1	14.6	16.4	16.1

(a) The figures refer to actual hours worked not hours paid for.

The previous table sets out aggregate and average hours worked by employed persons who are either working full-time or part-time. The following table provides information on average hours worked by employed persons by the industry of their employment.

EMPLOYED PERSONS: AVERAGE WEEKLY HOURS WORKED (a) BY INDUSTRY AUGUST 1989

Industry	*Males*	*Females*		*Persons*
		Married	*Total*	
Agriculture, forestry, fishing and hunting	46.0	26.5	26.8	40.5
Agriculture and services to agriculture	46.5	26.7	26.9	40.8
Forestry and logging, fishing and hunting	39.7	22.2	22.2	37.1
Mining	42.2	32.9	35.1	41.5
Manufacturing	40.9	32.5	33.4	38.8
Food, beverages and tobacco	40.8	31.4	31.1	37.8
Metal products	41.5	30.8	32.4	40.0
Other manufacturing	40.7	33.0	34.0	38.8
Electricity, gas and water	36.4	31.6	31.6	36.0
Construction	40.9	17.7	20.6	38.3
Wholesale and retail trade	41.0	28.8	27.7	34.9
Wholesale trade	42.4	28.3	31.4	39.0
Retail trade	40.2	28.9	26.8	33.2
Transport and storage	40.9	28.8	31.9	39.1
Communication	36.5	31.1	31.6	35.2
Finance, property and business services	42.0	28.8	31.8	37.1
Public administration and defence	36.2	28.2	30.7	34.1
Community services	39.4	27.3	29.2	32.8
Recreation, personal and other services	39.0	28.1	28.3	32.9
All industries	**40.7**	**28.3**	**29.5**	**36.1**

(a) The estimates refer to actual hours worked, not hours paid for.

Statistics on overtime are produced from a survey conducted each quarter. Estimates prior to November 1983 are not strictly comparable to later estimates. Background information about the job vacancies series is provided in *Information Paper: New Statistical Series: Employment, Average Weekly Earnings, Job Vacancies and Overtime* (6256.0).

OVERTIME BY INDUSTRY

Industry	*May 1984*	*May 1985*	*May 1986*	*May 1987*	*May 1988*	*May 1989*
AVERAGE WEEKLY OVERTIME HOURS PER EMPLOYEE WORKING OVERTIME						
Mining	8.7	10.5	9.2	9.4	11.1	11.7
Manufacturing	7.8	7.7	7.8	7.9	8.3	8.7
Food, beverages and tobacco	6.0	6.3	7.3	6.8	7.3	7.4
Textiles; Clothing and footwear	8.6	8.9	7.9	8.4	7.1	9.8
Paper, paper products, printing and publishing	6.2	6.0	6.6	7.4	7.5	7.6
Chemical, petroleum and coal products	10.3	9.0	8.7	8.6	7.8	8.4
Basic metal products	10.7	9.2	9.3	9.9	10.2	10.7
Fabricated metal products; other machinery, and equipment	7.7	7.6	7.5	7.8	9.0	8.7
Transport equipment	7.8	9.3	8.4	8.9	8.9	8.8
Other manufacturing	7.8	7.1	7.9	7.6	8.2	9.3
Electricity, gas and water	7.2	7.3	7.0	7.2	7.6	7.8
Construction	6.9	7.3	7.0	8.0	8.4	8.8
Wholesale trade	6.0	6.4	6.6	6.8	6.9	6.5
Retail trade	3.7	3.5	3.9	3.7	4.4	4.5
Transport and storage; Communication	7.3	7.6	7.9	7.3	9.3	8.5
Public administration and defence *(a)*	5.6	5.0	5.3	5.0	5.7	5.9
Community services	5.6	6.3	6.0	5.9	5.8	6.3
Other *(a)*	6.2	6.1	5.2	5.4	5.7	5.4
All industries	**6.7**	**6.8**	**6.8**	**6.8**	**7.3**	**7.4**

For footnotes *see* over.

OVERTIME BY INDUSTRY—*continued*

Industry	*May 1984*	*May 1985*	*May 1986*	*May 1987*	*May 1988*	*May 1989*
PERCENTAGE OF EMPLOYEES IN THE SURVEY WORKING OVERTIME						
Mining	46.7	42.6	46.2	44.1	44.0	47.3
Manufacturing	28.0	31.5	31.5	33.6	32.6	35.5
Food, beverages and tobacco	34.2	37.3	38.4	40.4	39.2	36.7
Textiles; Clothing and footwear	24.6	24.7	20.3	24.8	26.6	29.1
Paper, paper products, printing and publishing	17.9	19.7	19.7	24.7	24.9	25.1
Chemical, petroleum and coal products	22.2	22.0	24.0	29.3	29.3	36.4
Basic metal products	38.0	37.7	41.8	45.1	43.0	49.4
Fabricated metal products; other machinery, and equipment	26.8	31.1	33.9	35.5	30.3	40.2
Transport equipment	30.7	37.6	32.5	32.7	35.7	39.1
Other manufacturing	27.8	33.7	33.3	35.5	33.5	33.9
Electricity, gas and water	23.0	24.6	23.8	21.0	23.3	25.0
Construction	17.4	21.1	25.4	21.5	26.4	28.1
Wholesale trade	15.5	16.7	15.3	15.2	19.3	19.2
Retail trade	15.5	19.3	17.8	16.8	17.9	16.3
Transport and storage; Communication	27.0	31.9	31.5	28.6	31.2	33.0
Public administration and defence *(a)*	8.3	14.8	14.0	13.7	14.7	13.5
Community services	8.3	5.0	6.2	7.0	6.6	6.5
Other *(b)*	7.4	9.9	9.5	10.0	12.1	12.6
All industries	**16.5**	**18.2**	**18.1**	**18.1**	**19.0**	19.6

(a) Excludes permanent defence forces. *(b)* Includes finance, property and business services and recreation, personal and other services.

Industrial Disputes

This section presents statistics of industrial disputes involving the loss of ten working days or more at the establishments where stoppages occurred. Industrial disputes data are obtained from employers (private and government), trade unions, and from reports of government authorities.

INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR 1984 TO 1988: AUSTRALIA

	Number of disputes		*Employees involved ('000)*		
Year	*Commenced in year*	*Total (a)*	*Newly involved (b)*	*Total (a)*	*Working days lost ('000)*
1984	1,958	1,965	551.1	560.3	1,307.4
1985	1,876	1,895	r552.7	570.5	1,256.2
1986	1,747	r1,754	673.9	691.7	1,390.7
1987	1,512	1,517	593.4	608.8	1,311.9
1988	1,502	1,508	893.9	894.4	1,641.4

(a) Refers to all disputes in progress during the year. *(b)* Comprises workers involved in disputes which commenced during the year and additional workers involved in disputes which continued from the previous year.

An industrial dispute is a withdrawal from work by a group of employees or a refusal by an employer (or a number of employers) to permit some or all employees to work, each withdrawal or refusal being made to enforce a demand, resist a demand, or to express a grievance. Employees involved include those directly and indirectly involved in disputes, with the indirectly involved being only those who ceased work at establishments where stoppages have occurred but who are not party to the disputes. Working days lost refer to working days lost by workers directly or indirectly involved in disputes.

The annual figures contained in these tables relate to disputes in *progress.*

INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR 1984 TO 1988: WORKING DAYS LOST BY INDUSTRY

('000)

	Mining		Manufacturing					
Year	*Coal*	*Other*	*Metal products, machinery and equipment*	*Other*	*Construction*	*Transport and storage; Communication*	*Other industries (a)*	*All industries*
1984	131.1	193.2	144.8	249.3	116.3	150.6	322.1	1,307.4
1985	233.8	106.4	107.3	189.4	175.3	180.4	263.7	1,256.2
1986	362.0	179.4	187.4	205.3	117.7	57.6	281.4	1,390.7
1987	291.8	55.7	199.6	195.5	194.5	92.5	282.3	1,311.9
1988	471.3	97.4	309.5	117.4	207.9	75.0	362.9	1,641.4

(a) Includes: agriculture, etc.; electricity, etc.; wholesale and retail trade; finance, etc.; public administration, etc.; community services; recreation and personal services.

INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR 1984 TO 1988: WORKING DAYS LOST BY STATE

('000)

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (a)*
1984	660.6	187.5	236.5	25.5	119.2	50.5	1,307.4
1985	398.7	355.9	336.2	22.5	92.9	20.7	1,256.2
1986	598.8	381.8	173.4	r46.3	143.1	29.2	1,390.7
1987	744.8	281.4	73.7	44.6	115.3	28.0	1,311.9
1988	730.1	362.6	299.5	47.0	160.6	18.6	1,641.4

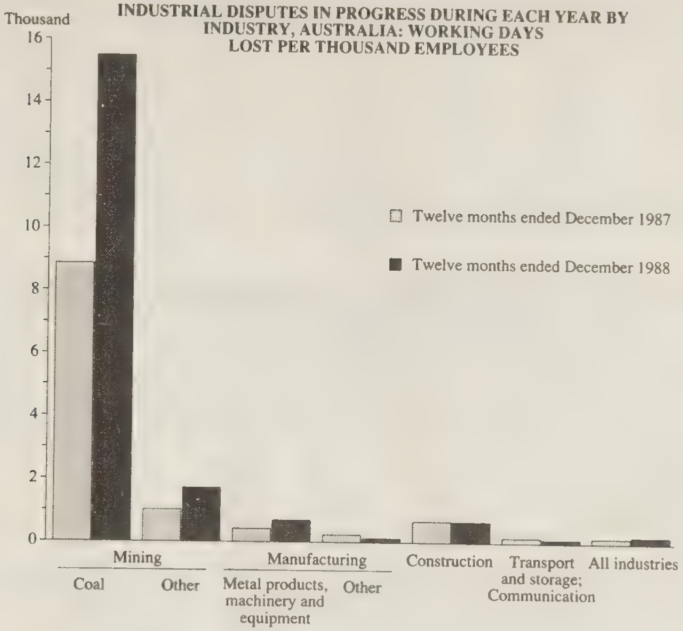
(a) Includes the Northern Territory and the Australian Capital Territory.

The following table shows the number of working days lost per thousand employees in the years 1984 to 1988. As from 1984, the basis for calculating working days lost per thousand employees changed to include estimates of employees from the Survey of Employment and Earnings. These estimates are combined, with estimates of the number of employees in agriculture and in private households obtained from the Labour Force Survey. Prior to 1984, the figures were calculated using estimates from the Labour Force Survey.

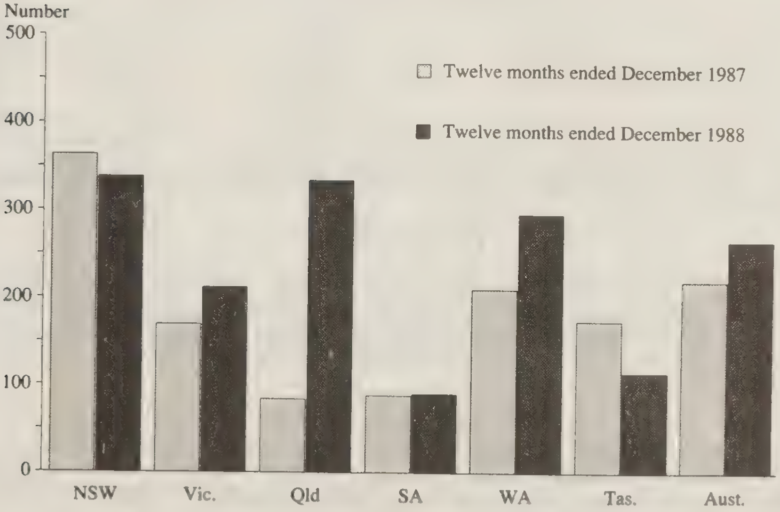
INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR 1984 TO 1988: WORKING DAYS LOST PER THOUSAND EMPLOYEES BY INDUSTRY

	Mining		Manufacturing					
Year	*Coal*	*Other*	*Metal products, machinery and equipment*	*Other*	*Construction*	*Transport and storage; Communication*	*Other industries*	*All industries*
1984	3,913	3,745	343	416	503	372	91	248
1985	6,892	1,928	256	312	666	430	71	228
1986	10,741	3,328	445	328	458	135	72	242
1987	8,920	1,072	479	305	743	217	70	223
1988	15,548	1,777	750	183	725	177	85	269

INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR BY INDUSTRY, AUSTRALIA: WORKING DAYS LOST PER THOUSAND EMPLOYEES



INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR: STATES AND AUSTRALIA WORKING DAYS LOST PER THOUSAND EMPLOYEES



INDUSTRIAL DISPUTES IN PROGRESS DURING EACH YEAR 1984 TO 1988: WORKING DAYS LOST PER THOUSAND EMPLOYEES BY STATE

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (a)*
1984	357	132	302	56	256	350	248
1985	209	236	411	48	187	138	228
1986	304	240	r207	95	272	190	242
1987	366	172	87	91	r213	177	223
1988	341	214	337	93	299	118	269

(a) Includes the Northern Territory and the Australian Capital Territory.

INDUSTRIAL DISPUTES ENDING DURING EACH YEAR 1986 TO 1988: DURATION, CAUSE AND METHOD OF SETTLEMENT, WORKING DAYS LOST

('000)

	1986	*1987*	*1988*
DURATION			
Up to 1 day	441.00	350.1	732.9
Over 1 to 2 days	65.7	180.9	113.7
Over 2 to less than 5 days	98.9	160.1	144.2
5 to less than 10 days	219.4	261.5	574.5
10 to less than 20 days	398.4	116.3	132.7
20 days and over	142.8	140.7	42.7
Total	**1,366.2**	**1,209.5**	**1,713.8**
CAUSE			
Wages	546.3	519.7	507.9
Hours of work	13.2	20.3	31.5
Managerial policy	486.0	330.9	897.7
Physical working conditions	93.7	88.7	158.1
Trade unionism	45.7	36.8	34.0
Other *(a)*	181.3	213.1	84.6
Total	**1,366.2**	**1,209.5**	**1,713.8**
METHOD OF SETTLEMENT *(b)*			
Negotiation	165.1	211.4	176.1
State legislation	110.2	171.9	102.7
Federal and joint Federal State legislation	576.8	297.2	788.2
Resumption without negotiation	467.8	509.2	598.4
Other methods*(c)*	46.3	19.8	48.3
Total	**1,366.2**	**1,209.5**	*1,713.8*

(a) Includes 'Leave, pensions, compensation provisions etc'. *(b)* Method directly responsible for ending the stoppage of work. *(c)* Includes 'Mediation', 'Filling the places of workers on strike or locked out' and 'Closing down the establishment permanently'.

Trade Unions

For the purpose of the following statistics a trade union is defined as an organisation, consisting predominantly of employees, whose principal activities include the negotiation of rates of pay and conditions of employment for its members. Returns showing membership by State and territory each year are obtained for all trade unions and employee organisations.

In the table following the approximate percentages of wage and salary earners in employment (i.e. employees) who were members of trade unions are shown. From 30 June 1985, the proportions of employees have been calculated from estimates of employees from the Survey of Employment and Earnings, as published quarterly in *Employed Wage and Salary Earners, Austrlaia* (6248.0).

These estimates have been adjusted by adding estimates of employees in agriculture, forestry, fishing and hunting and in private households employing staff, from the Labour Force Survey. For statistics prior to 30 June 1985, all estimates of employees were taken from the *Labour Force, Australia* (6203.0). The percentages shown should be regarded as giving only a broad indication of the extent of union membership among employees, because they are based on estimates of employed wage and salary earners. The degree of unemployment of reported union members will affect the percentages for a particular year and comparison over time. Such comparisons may also be affected by duplication in the count of members due to persons holding membership in more than one union, and by union perceptions and practices in regard to membership (e.g. membership may be restricted to 'financial' members only) which can change over time.

TRADE UNIONS: NUMBER, MEMBERSHIP AND PROPORTION OF TOTAL EMPLOYEES

	Number of separate unions (a)	*Number of members ('000)*			*Proportion of total employees (per cent)*		
		Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
30 June—							
1985 *(b)*	323	2,121.6	1,032.6	3,154.2	65	46	57
1986	326	2,126.5	1,059.7	3,186.2	63	44	55
1987	316	2,136.0	1,104.2	3,240.1	63	44	55
1988	308	r2,166.6	r1,123.8	r3,290.5	r62	43	r54
1989	299	2,191.0	1,219.3	3,410.3	62	44	54

(a) Without interstate duplication. *(b)* Unions reported financial and total membership separately for the first time as at 30 June 1985.

TRADE UNIONS: CLASSIFICATION ACCORDING TO NUMBER OF MEMBERS 30 JUNE 1989

Size of union (number of members)	*Separate unions*		*Members*	
	Number	*Proportion of total (per cent)*	*Number ('000)*	*Proportion of total (per cent)*
Under 100	38	12.7	1.7	0.1
100 and under 250	31	10.4	5.3	0.2
250 and under 500	26	8.7	8.9	0.3
500 and under 1,000	41	13.7	28.8	0.8
1,000 and under 2,000	42	14.0	59.5	1.7
2,000 and under 3,000	12	4.0	29.6	0.9
3,000 and under 5,000	25	8.4	98.8	2.9
5,000 and under 10,000	19	6.4	138.9	4.1
10,000 and under 20,000	19	6.4	261.3	7.7
20,000 and under 30,000	12	4.0	295.4	8.7
30,000 and under 40,000	10	3.3	350.2	10.3
40,000 and under 50,000	6	2.0	271.1	7.9
50,000 and under 80,000	7	2.3	453.1	13.3
80,000 and over	11	3.7	1,407.8	41.3
Total	**299**	**100.0**	**3,410.3**	**100.0**

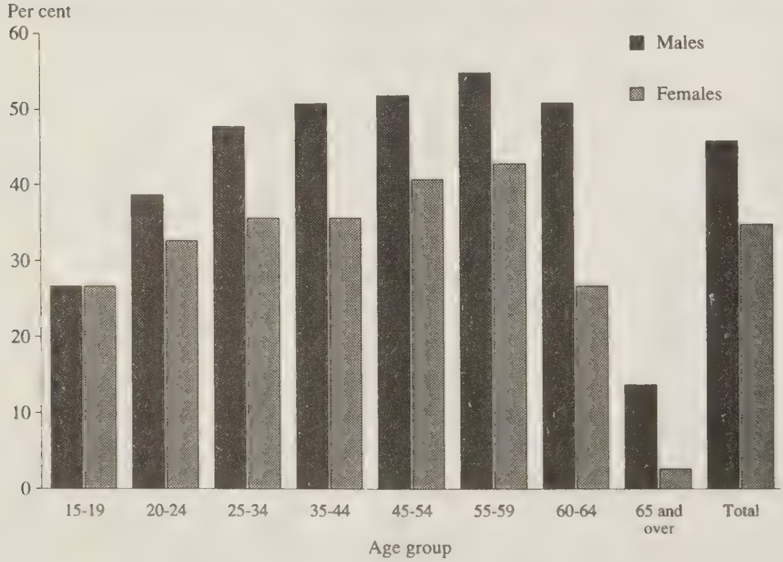
In addition, a Supplementary Survey was conducted in August 1988 to provide information on the characteristics of trade union members such as their age, industry, and occupation.

For the purposes of this Supplementary Survey, to be considered as members of a trade union persons must be employed wage and salary earners who are using their membership in conjunction with their main job. Selected results from this survey are shown in the following tables and graph.

PROPORTION OF ALL EMPLOYEES WHO WERE TRADE UNION MEMBERS, AGE AND MARITAL STATUS, AUGUST 1988
(Per cent)

	Males			*Females*			*Persons*		
Age group	*Married*	*Not-married*	*Total*	*Married*	*Not-married*	*Total*	*Married*	*Not-married*	*Total*
15–19	37	27	27	43	26	27	42	26	27
20–24	43	38	39	34	33	33	38	36	36
25–34	49	45	48	35	36	36	44	41	43
35–44	50	55	51	36	40	36	44	48	45
45–54	51	54	52	39	47	41	46	51	47
55–59	55	56	55	40	52	43	51	54	51
60–64	49	59	51	21	36	27	44	48	45
65 and over	12	18	14	6	0	3	11	7	9
Total	**50**	**40**	**46**	**36**	**34**	**35**	**44**	**37**	**42**

ALL EMPLOYEES: PROPORTION WHO WERE MEMBERS OF A TRADE UNION BY AGE, AUGUST 1988



PROPORTION OF ALL EMPLOYEES WHO WERE TRADE UNION MEMBERS, INDUSTRY AND SECTOR, AUGUST 1988
(Per cent)

	Males			*Females*			*Persons*		
Industry	*Public*	*Private*	*Total(a)*	*Public*	*Private*	*Total(a)*	*Public*	*Private*	*Total(a)*
Agriculture, forestry, fishing and hunting	62	10	13	34	11	11	57	10	13
Mining	93	65	67	100	18	19	93	61	63
Manufacturing	88	50	52	88	37	38	88	47	48
Electricity, gas and water	83	74	82	62	69	62	81	73	80
Construction	79	48	52	56	6	11	77	43	47
Wholesale and retail trade	61	20	21	37	26	26	54	23	23
Transport and storage	88	52	69	71	23	35	86	44	62
Communication	84	77	84	55	52	55	76	73	76
Finance, property and business services	71	22	28	70	20	27	70	21	28
Public administration and defence	68	71	68	48	23	48	61	48	61
Community services	68	26	56	59	25	45	63	25	49
Recreation, personal and other services	51	25	27	55	24	26	53	25	26
Total	**75**	**36**	**46**	**58**	**26**	**35**	**68**	**32**	**42**

(a) Includes persons for whom sector could not be determined.

Employment and Training Programs

In order to ensure that its programs were appropriate to the current needs of the labour market, in 1983 the Commonwealth Government established the Committee of Inquiry into Labour Market Programs. As a result of that Committee's recommendations, the Government has restructured and rationalised its labour force programs. The resulting mix of programs is designed to promote work experience and training. The principal aims of the labour force programs are to maintain a supply of trained persons to meet the needs of industry and to assist disadvantaged groups in the labour market. Labour force programs operating in 1989 are detailed as follows.

Australian Traineeship System—ATS

The ATS was introduced in August 1985 to bring structured training arrangements to the non-trades occupations. It is particularly directed towards young people who do not go on to higher education, technical or trade training, primarily 16–18 year olds, with preference given to those who do not have Year 12 qualifications. Traineeships are of at least 12 months duration and consist of a structured combination of on- and off-the-job training. Training includes a minimum of 13 weeks off-the-job training, usually provided by a TAFE.

The Commonwealth is responsible for the overall development and implementation of the ATS in close consultation with State and Territory governments, State Training Authorities, TAFEs, employers, unions and young people. The Commonwealth provides:

- an on-the-job training fee of $1,000 per trainee to employers, $2,000 in the case of trainees assessed as disadvantaged;
- an off-the-job training fee of $1,900 per trainee which is paid to TAFE and $2,000 in the case of other approved off-the-job training providers;
- living away from home allowances to trainees who have to move in order to take up a traineeship.

The trainee is paid a trainee wage for the duration of the traineeship which is set with reference to relevant junior rates for the time spent on the job. The trainee wage cannot be less than $108.35 per week and is adjusted in accordance with National Wage Case decisions. Since the inception of the system over 34,000 young people have commenced a traineeship in a wide range of industries and occupations. Of these over 13,600 trainees commenced in 1988–89.

Industry Training Support Program

This program has two components:

- Industry Training Services
- Innovative Training Projects

Industry Training Services

In addition to specific schemes directed at the training of individuals, the Government also provides aid to assist industry develop and improve its own training programs. Support is provided for a network of Industry Training Committees which are tripartite, autonomous, industry based bodies, incorporated as companies or associations with membership representing employer and employee associations and Commonwealth and State/Territory Government. Their primary role is to improve the standards of industry training in Australia thereby contributing to greater international competitiveness whilst providing a channel of advice and communication between industry and governments.

They promote and develop systematic training in their industries and advise State and Commonwealth governments on skill formation matters affecting their industries. There are 117 National and State/Territory ITCs covering 18 major industries, representing more than half of the private sector workforce.

Under another component of the Program, Training Services Australia (TSA) provides a range of public training courses and consultancy services designed to improve the utility of training in industry and the competency of those who provide it. TSA operates training centres and offers training consultancy services in all capital cities excluding Darwin.

Innovative Training Projects

The Innovative Training Projects component of the Industry Training Support Program is intended to be a flexible program designed to meet identified skill requirements at both occupational and industry levels by facilitating improvements in the level and quality of skills training. Financial assistance can be provided to industry to:

- upgrade workforce skills to meet structural and technological change;
- establish industry training foundations and skill centres;
- pilot test new and innovative training arrangements;
- facilitate industry restructuring through award restructuring processes;
- develop national curricula and competency based training and assessment procedures;
- establish enterprise based skill centres;
- assist in trainer training; and
- address national skill shortage issues.

Innovative Training Projects — National Skills Shortages

The National Skills Shortages Program provides short–term training assistance to individuals and industry in occupations where skilled labour is in short supply. Particular emphasis is given to occupations identified as requiring temporary reliance on skilled migrants.

The primary objective of the National Skills Shortages Program is to minimise the effects of current and emerging skill shortages of national significance. Training programs are developed in conjunction with industry groups and training providers. The Department welcomes suggestions from industry groups as to areas of shortages of national significance.

The program provides:

- refresher training for persons with basic qualifications or experience but whose skills need updating;
- bridging training for overseas qualified persons seeking recognition of their qualifications in Australia; and
- skills upgrading of existing employees.

In recent years the Program has assisted training in a range of areas of identified national skill shortages including:

- nursing and other health occupations;
- the hospitality industry; and
- the computer industry.

Innovative Rural Education and Training Program — IRETP

IRETP is part of the Commonwealth's 'Fair Go' strategy targetted at improving access of rural Australia to education and training. IRETP is designed to assist community groups, educational institutions and industry in the development of innovative methods for delivery of relevant education and training programs at the regional level in non-metropolitan areas of Australia.

Trade Training System

The Trade Training Programs aim to assist in meeting the long term needs of the economy for trade skills by improving the efficiency, flexibility and equity of the system. This system has two program elements:

- Commonwealth Rebate for Apprentice Full-time Training — CRAFT; and
- Special Apprentice Training — SAT

Commonwealth Rebate for Apprentice Full-time Training—CRAFT

CRAFT aims to maintain or increase apprentice recruitment and promote improvements in the quality of apprentice training through the following components:

- *Technical Education Rebate,* payable to employers to offset the costs associated with releasing their apprentices to undertake the technical education component of an approved basic trade course. Applies to all eligible employers with apprentices who commenced their apprenticeship prior to 1 January 1988.
- *Apprentice Training Incentive,* introduced on 1 January 1988 to progressively replace the Technical Education Rebate. Employers who take on and indenture apprentices after 1 January 1988 are able to apply for one-off grants in respect of the commencement, recommencement and completion of an apprenticeship. From 1 July 1989, employers receive an extra $1,000 for taking on a young person classified by the CES as disadvantaged in the labour market.
- *Off-the-Job Training,* payable to employers for releasing apprentices to attend approved full-time instruction at their own or other industry training centre. Employers approved to train other employers' apprentices can also be compensated for designated training costs.
- *Living-Away-From-Home-Allowance,* available to apprentices in their first and second year of apprenticeship where there is a need to live away from home to obtain or maintain their apprenticeship.
- *Fares Assistance,* available to apprentices, in approved trades, who have to move away from home to take up an apprenticeship.

Special Apprentice Training—SAT

SAT aims to improve the access to, and reduce wastage from, apprenticeship and other trade training opportunities for special groups, including those with disabilities, through assistance designed to complement and improve approaches to traditional apprentice training. Assistance is available under the following components:

- *Special Trade Training Program,* directed at testing, developing and introducing new approaches to traditional apprentice training. The major support under the program provides for special preparatory courses for women as well as the 'Tradeswomen on the Move' projects — a joint Commonwealth/State strategy designed to encourage greater participation of young women in non-traditional trades.
  - — A major component under this program has been the provision of assistance to the States/Territories for additional trade-based pre-employment courses. Introduced in 1983 as a counter-cyclical measure in response to a downturn in apprentice recruitment, this assistance will no longer be available in view of the record levels of intake into apprenticeships over the past three years.
- *Group Training Schemes,* cover apprentices and trainees under the ATS and aim to increase training opportunities with small companies which would not be able to recruit apprentices and trainees in their own right by indenturing apprentices/trainees to a central body, such as an employer organisation or a training company. The Commonwealth provides assistance to group training projects to offset their administrative costs.
- *Disabled Apprentice Wage Subsidy,* provides a subsidy to employers who indenture a person with disabilities as an apprentice. The subsidy may be provided for up to the duration of the apprenticeship and extra help may be granted to allow necessary workplace modifications and tutorial assistance.
- *Special Assistance Program,* provides a training allowance to unemployed out-of-trade apprentices to assist them in completing basic trade courses.

JOBTRAIN

A single JOBTRAIN program was introduced for 1988–89 which combined the former Youth Training Program (YTP) for job seekers under 21 years old, and Adult Training Program (ATP) for those 21 years and over.

The JOBTRAIN program provides opportunities for the long-term unemployed or other especially disadvantaged job seekers to receive vocational training based on opportunities in the local labour market.

The program generally assists people who have been unemployed for at least six out of the past nine months or are otherwise especially disadvantaged in the labour market, e.g. people with disabilities, Aboriginals, sole parents, people born overseas with English language or cultural difficulties, women returning to the workforce after a prolonged absence, young people deemed 'at risk' and other special needs job seekers.

Priority within JOBTRAIN has been given to providing additional assistance to:

- sole supporting parents under the Jobs, Education and Training (JET) Program; and
- adults aged 21–54 who are unemployed for 12 months or more under the NEWSTART strategy.

JOBTRAIN participants' needs, their suitability for training, and the skill requirements of the local labour market, are taken into account in the development of short-term vocational courses at the local level.

Courses are usually developed and/or provided on a fee-for-service basis through TAFE or other training providers. Course participants may receive the Formal Training Allowance (FTA), equivalent to their unemployment benefit or job search allowance, plus ancillary allowances such as for books and equipment and living away from home allowances, with a training component of $30 per week for those 21 years and over.

Assistance with child care is available for sole parents (with children under 16 years) to undertake DEET-approved formal training to improve their job prospects.

Linked to the establishment of the National Office of Overseas Skill Recognition (NOOSR), in April 1989 the number of places in JOBTRAIN for overseas qualified professionals was increased to 180 in 1989–90 and 200 in 1990–91.

Job Search Training Program

The Job Search Training Program has two components—Job Clubs and Job Search Training Courses (JSTCs). Both program elements provide jobseekers with training in job search skills to improve their competitiveness in the labour market.

The program operates by funding training providers to deliver an agreed program of job search training on a contractual basis. Job Clubs run for 3 weeks full-time, while JSTCs provide 22 hours training in total.

During 1988–89, the first full year of the operation of the Job Search Training Program, 6,116 jobseekers took part in the 75 Job Clubs across the country and 14,118 undertook a JSTC. Job Clubs scored a 62 per cent placement success rate with 29 per cent for JSTCs.

Job Creation and Employment Assistance Programs

New Enterprise Incentive Scheme—NEIS

NEIS provides assistance for unemployed people to set up self employment ventures. The Scheme operates as a partnership between the Commonwealth and either State/Territory governments or private sector and non-government organisations. It provides a comprehensive support package for participants during the crucial establishment phase, increasing their opportunity to establish themselves successfully in permanent self-employment.

The Commonwealth provides 12 months income support, broadly equivalent to unemployment benefit, and training in business plan development and small business management skills. This is complemented by start-up capital and business advice provided by State/Territory governments or other organisations participating in NEIS jointly with the Commonwealth.

The target group for NEIS is unemployed people registered with the Commonwealth Employment Service, in receipt of or dependent on unemployment benefit or certain other Social Security benefits or pensions, and aged between 18 years and the aged pension age. Proposed businesses must be new, independent, reputable and assessed as commercially viable and meeting an unsatisfied demand.

JOBSTART

JOBSTART is a general wage subsidy program which provides access to employment for job seekers who have experienced long periods of unemployment or face other disadvantages in obtaining work. Under the program, employers receive subsidy payments for a period of up to 20 weeks as an incentive for engaging and improving the employment prospects of these disadvantaged job seekers. The rate of the subsidy payment varies according to age, length of unemployment and other special disadvantages.

The primary eligibility requirement is to have been unemployed for at least six months out of the last nine months, away from full-time education, be currently registered with the Commonwealth Employment Service (CES) and actively seeking work.

The duration of unemployment criterion is waived for especially disadvantaged labour market groups such as overseas-born jobseekers who have English language difficulties or face cultural barriers in gaining access to employment, Aboriginals, sole parents and other special needs jobseekers.

For employers to qualify for a JOBSTART subsidy they must be prepared to pay at least the award or appropriate wage for the job and fulfil other award conditions and should discuss the matter with the CES before employing the jobseeker.

Jobs, Education and Training (JET) Program for Sole Parents

JET aims to improve the financial circumstances of sole parents by facilitating their entry to the workforce through an integrated program of assistance providing individual advice and access to employment, education, training and child care opportunities.

The JET program has two objectives:

- to increase the number and proportion of sole parents in employment, and
- to reduce social security outlays for sole parents.

JET is a voluntary program which provides sole parent pensioners with a consolidated range of assistance from the Department of Employment, Education and Training (DEET), the Department of Social Security (DSS) and the Department of Community Services and Health (DCSH).

JET was introduced in late March 1989 and is being phased in nationally over two years with full implementation by November 1990.

All sole parent pensioners are eligible for JET. However, priority is given to: those who have been on a pension for over 12 months, and those whose children are over six years; those whose youngest child will reach the age of 16 within two years; and teenage sole parents.

JET Advisers in DSS offices provide sole parents with individual assessments of job barriers and prospects, advice about relevant services, and refer them to the Commonwealth Employment Service (CES) for employment, education and training assistance. Extra places are available for sole parents who need to retrain or improve their work skills through the JOBTRAIN, JOBSTART or Job Search Training Programs. For JET clients undertaking full-time education courses, extra funds are available for income support under AUSTUDY. In addition, full-time student pensioners receive an AUSTUDY education supplement of $30 per week.

Child care places are provided to sole parents through the Children's services Program (by DCSH) during their training and education, and for 12 weeks after they commence employment.

Mobility Assistance Scheme

The Mobility Assistance Scheme aims to facilitate referral or placement of jobseekers by providing financial assistance towards the costs incurred in pursuing or taking up suitable employment opportunities. The Scheme is divided into three components.

- *Fares Assistance*. Provides free travel on public transport for jobseekers to attend job interviews for employment of a continuing nature. This ensures that those most in need of financial assistance are not disadvantaged in their search for employment by the cost of fares.
- *Relocation Assistance*. Provides financial assistance to meet the relocation expenses of jobseekers who are unable to obtain continuing employment in their present locality and are prepared to move to a new area to take up a job that cannot be filled by suitable local jobseekers. Assistance under the relocation provisions includes fares and expenses associated with moving a home and family.
- *Enhanced Mobility for Disadvantaged Job seekers*. Provides for a one-off payment of up to $100 to jobseekers in necessitous circumstances to cover incidental costs associated with starting employment. Examples of such incidental costs are union dues, uniforms and initial fares.

Industry Labour Adjustment Assistance

The program contributes to the efficient and equitable functioning of the labour market by improving and adapting the skills/employment base in particular industries or regions undergoing structural change and assisting individuals affected by the change.

This program provides a range of labour market measures under the auspices of the Office of Labour Market Adjustment (OLMA). The measures cover training or other re-employment assistance, directed to particular industries undergoing structural change in recognition of the need for enhanced competitiveness, and to workers losing employment as a result of structural adjustment or specific Commonwealth Government decisions. The assistance is available in specific packages or 'mixes' according to the assessed needs of the workers in the particular industry or region. Packages to operate in 1989–90 are:

- *Labour Market Adjustment Assistance (LMAA)* — flexible packages of assistance designed by OLMA and subject to Ministerial determination as to whether the provision of special assistance is necessary to help people affected by structural adjustment to obtain new employment. This component also incorporates assistance to retrenchees from the Passenger Motor Vehicle Industry provided under the Labour Adjustment Training arrangement (LATA).
- *Heavy Engineering Adjustment and Development Program (HEADP)* — there will be some finalisation of existing claims from companies under the skills enhancement element, and people retrenched from the industry before 30 June 1989 may continue to receive training or re-employment assistance.
- *Textiles, Clothing and Footwear Industries Labour Adjustment Package (TCF LAP)* — re-employment assistance is available for workers retrenched during the restructuring anticipated under the 1989–95 TCF Industry Plan. Special Assistance is also available for women and those with a need for English Language Training.
- *Coal Mining Industry Labour Adjustment Package (COAL LAP)* — provided some assistance for workers retrenched from the Coal Mining Industry as a result of industry restructuring in New South Wales and Queensland.
- *North Queensland Rainforests Labour Adjustment Package (Rainforests LAP)* — providing re-employment assistance, and cash compensation payments to ameliorate immediate dislocation for timber industry workers retrenched as a result of the decision to nominate the Queensland Wet Tropical Rainforests for the World Heritage List.

Individuals are eligible for assistance if they have been retrenched from one of the above industries after a period of service, usually twelve months, although there are variations in each package. In addition, workers in regions where an OLMA package has been established may be eligible if they have demonstrably been affected by structural change.

Under these packages assistance to the individual is typically tailored to his/her needs and choices. With some exceptions, the individual has access to a core of program measures (modelled on those available from the mainstream programs JOBTRAIN, JOBSTART and Mobility Assistance) providing either one or a combination of:

- short term vocational training (from an approved educational, industry or enterprise based training provider), together with income support, and English language training as required;
- temporary wage subsidies paid to an employer; and/or
- relocation assistance to seek jobs in another area or region, including removal costs where appropriate.

In addition there is some budget flexibility to adapt existing Department of Employment, Education and Training programs to suit particular circumstances.

SkillShare—The Community and Youth Network For Employment and Training

The objective of the SkillShare program which commenced on 1 January 1989, is to enable long-term unemployed people, particularly those unemployed for twelve months or more, and other most disadvantaged unemployed people, to obtain and retain employment or to proceed to further education or training, through the provision of skills training (including personal support and referral) and enterprise activities by groups in the community with demonstrated capacity to deliver such services.

Sponsor bodies comprise non-profit community organisations specifically established for the purpose of sponsoring a SkillShare project, existing non-profit community agencies or organisations, or local government authorities which are funded to provide a program of activities, including structured skills training and job search training during an annual (calendar year) grant period for the target group in their local area.

The SkillShare target group is long-term unemployed people, particularly those unemployed for twelve months or more and other most disadvantaged unemployed people who:

- are likely to benefit from a community-based approach to labour market assistance; and
- do not have ready access to other employment, further education and training opportunities.

The other most disadvantaged unemployed people include:

- people with disabilities;
- young people who are at risk such as the homeless, wards of state, ex-offenders, those from single-parent families or those dependent on pensions or benefits or those who left school before the successful completion of Year 10;
- Aboriginals;
- migrants with English language difficulties and/or from culturally different backgrounds which inhibit their employment prospects;
- sole support parents including those in receipt of supporting parents benefits;
- offenders, ex-offenders and homeless people;
- people who have lost or will lose eligibility for supporting parents benefit or widow's pension.

Sponsors provide regular reports on their activities and records of participants and these are currently being monitored as part of Departmental program participation monitoring.

From 1 January 1989, 354 SkillShare projects have assisted just under 50,000 participants from the most disadvantaged unemployed; it is expected that at least 60,000 people will be assisted in 1989.

Each of the 354 projects funded through SkillShare and currently operating throughout Australia is expected to assist an average of 180 participants in 1989. The cost per participant in 1989 is estimated to average $950.

As a result of broader initiatives announced in the 1989–90 Budget, SkillShare Special Services Grants are also available to eligible community organisations in 1990 to provide labour market brokerage pilot services to people with disabilities and older unemployed and to deliver additional assistance to disadvantaged young people to enable them to participate successfully in mainstream training programs.

Aboriginal Employment

The objectives of this sub-program are to enable Aboriginal people to obtain equitable representation in employment and hence contribute to the promotion of Aboriginal economic independence, by:

- increasing the levels of permanent employment for Aboriginal people in the mainstream labour market; and
- generating employment within Aboriginal communities located in rural and remote areas.

These are addressed through the Aboriginal Employment Development Policy (AEDP) comprising, with the Department of Employment, Education and Training the following component programs:

- *Training for Aboriginals Program* (TAP), which aims to improve training and employment opportunities for Aboriginal people by:
  - — assisting private and public sector employers to develop recruitment and career development strategies for Aboriginal people in the mainstream labour market;
  - — negotiating with employers for training assistance linked with employment outcomes;
  - — recognising and supporting community-based employment and training, including training support to enterprises and community development projects; and
  - — providing assistance for vocational training in formal and short-term special courses.
- *Aboriginal Employment Action* (AEA) which encourages large employer corporations to develop recruitment strategies for increasing Aboriginal employment.
- *Aboriginal Enterprise Incentive Scheme* (AEIS) which provides assistance to unemployed Aboriginals to become self-employed in business.
- *Enterprise Employment Assistance* (EEA) which provides wage subsidies to Aboriginal enterprises to create employment opportunities.

Other Assistance

Allowances

To assist disadvantaged job seekers to undertake training or re-training, the Formal Training Allowance (FTA) is made available. This is to support living and other costs during course participation and is payable to eligible people participating in the formal training programs, which are:

- JOBTRAIN;
- SkillShare;
- Training for Aboriginals Program;
- elements of Special Apprenticeship Training;
- the national skills shortages element of the Skills Training Program; and
- training elements of New Enterprise Incentive Scheme.

To be eligible to receive FTA, people are generally unemployed for at least six months in the last nine or are otherwise especially disadvantaged in the labour market. FTA is also payable to those who are retrenched or subject to retrenchment under the provisions of various industry and regional employment assistance programs. FTA includes:

- a living component equivalent to the total Unemployment Benefit/Job Search Allowance entitlement of the trainee;
- a training component $30 for those aged 21 and above;
- a Living-Away-From-Home Allowance (LAFHA) for people who need to move to undertake training, and a Home Base Maintenance Allowance for trainees on LAFHA who also maintain a home base;
- ancillary allowances such as for books and equipment, special fares assistance.

Child care

Some assistance with child care is available to sole parents to improve their employment prospects by facilitating their entry into training or education. The Children's Services Program (CSP) administered by the Department of Community Services and Health is the major Federal program for child care.

Additional assistance is provided under Child Care Assistance (CCA) for sole parents who are undertaking formal training or education under DEET programs and who are not participants on the Jobs, Education and Training (JET) program. Temporary childcare places are provided for the duration of training/education. Subsidy is payable for child care which is provided through the CSP or other non-profit bodies and organisations, and currently requires a minimum parent contribution of $14 per week for full-time care for one child and $16 per week for 2 or more children.

LABOUR MARKET PROGRAMS AND SERVICES EXPENDITURE
($'000)

Type of program	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Training Programs—						
Vocational Training for Young People—						
Australian Traineeship System	—	—	2,087	13,565	28,607	40,726
Formal Training Assistance for Youth	14,564	16,121	14,854	13,615	*(a)*	*(a)*
Experimental Training Projects	1,034	1,807	664	1,720	*(a)*	*(a)*
Youth Training Program *(b)*	—	—	—	—	25,890	*(c)*
JOBTRAIN	—	—	—	—	—	*(d)*72,800
Bridging Training for Overseas Qualified Professionals	—	—	—	—	—	1,900
Trade Training—						
CRAFT	86,603	99,362	88,075	96,252	102,617	120,124
Special Apprentice Training	23,323	21,865	20,213	18,860	16,825	14,825
Adult Training *(e)*—						
Adult Training Program	—	—	—	—	*(f)*29,480	*(g)*
General Skills Training	—	—	4,917	18,455	—	—
Labour Adjustment Training	11,223	9,670	4,616	*(h)*2,064	—	—
Skills in Demand	2,068	3,092	*(i)*3,419	—	—	—
General Training Assistance—						
Formal	3,746	4,473	*(j)*3,661	—	—	—
On-the-job	1,842	848	*(j)*739	—	—	—
Former Regular Service Members'	31	11	10	—	—	—
Vocational Training Scheme—						
Formal (Disabled)	1,120	476	*(j)*488	—	—	—
Industry Training Support—						
Industry Training Services	6,943	8,649	11,716	12,711	12,749	13,959
Innovative Training Projects	—	—	—	—	—	6,864
National Skills Shortages	—	—	1,061	4,308	*(k)*	*(l)*2,600
Job Creation and Employment Assistance—						
Job Creation—						
Community Employment Program	285,422	405,543	289,220	*(m)*196,269	*(m)*99,454	*(m)*153
New Enterprise Incentive Scheme *(n)*	—	—	705	2,722	3,298	4,018
Wage Pause Program *(o)*	101,100	—	—	—	—	—
Employment Incentives—						
JOBSTART—						
Private Sector	—	—	*(q)*18,787	113,972	105,690	68,300
CWEP	—	—	*(s)*	10,393	2,794	—
Work Experience (SYETP)	120,192	97,673	*(t)*61,714	—	—	—
Adult Wage Subsidy Scheme	23,200	35,134	*(t)*25,432	—	—	—
Special Needs Clients	1,938	2,333	*(t)*1,763	—	—	—
Disabled On-the-Job	7,161	9,234	*(t)*7,146	—	—	—
Mobility Assistance—						
Relocation Assistance Scheme	3,497	3,016	2,629	3,334	3,552	2,526
Fares Assistance Scheme	416	451	501	665	994	1,344
Industry Labour Adjustment Assistance	—	3,198	894	9,864	13,389	*(u)*14,403
Community Based and Aboriginal Program—						
Innovative Rural Education and Training Program	—	—	—	—	—	1,784
SkillShare *(v)*	—	—	—	—	—	64,876
Community Youth Support Scheme	21,348	26,056	31,540	35,092	35,489	—
Community Training Program—						
Community Youth Special Projects	2,794	3,342	4,586	*(w)*	—	—
Work Preparation Program	1,506	2,594	2,473	*(w)*	—	—
Locally Based Projects	—	—	935	14,181	14,853	—
Information Technology Centres	—	—	354	935	3,942	—
Community Volunteer Program	—	—	—	1,801	3,419	—
Volunteer Youth Program	392	529	816	*(x)*	—	—
Aboriginal Employment & Training	41,040	53,356	58,477	63,232	72,199	72,565
Total	**762,503**	**808,833**	**664,492**	**634,010**	**575,241**	**503,767**

Source: Department of Employment, Education and Training

For footnotes *see* next page.

(a) Subsumed under Youth Training Program. *(b)* In 1987–88 the Youth Training Program replaced the under 21 year old element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(c)* Replaced by JOBTRAIN. *(d)* Includes $26.2m for Formal Training Allowance. *(e)* Expenditure in 1985–86 relates to approvals in the period 1 January 1986 to 30 June 1986. This program replaced General Training Assistance Skills in Demand and the formal elements of Special Training for Disabled. *(f)* In 1987–88, the Adult Training Program replaced the 21 and over element of the former Formal Training Allowance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(g)* Replaced by JOBTRAIN. *(h)* In 1986–87, this element formed part of the Adult Training Program; in 1987–88 it formed part of Industry and Regional Employment Assistance. *(i)* Expenditure relates to approvals on Skills in Demand projects approved prior to 1 January 1986. This program was then replaced by the National Skills element of the Adult Training Program. *(j)* Expenditure relates to approvals to 31 December 1985, when this program was replaced by the Adult Training Program. *(k)* In 1987–88, this element was transferred from the Adult Training Program to the Skills Training Program. *(l)* Includes $0.4 million for Formal Training Allowance. *(m)* No new funds were approved in 1987–88 and 1988–89. Expenditure was for commitments entered into in 1986–87, including project variations. *(n)* The New Enterprise Incentive Scheme operated as a Pilot program under CEP in 1985–86 and 1986–87. *(o)* Funds were appropriated to the Department of Finance. *(q)* Expenditure relates to approvals in the period 1 December 1985 to 30 June 1986. This scheme replaced private sector assistance for Work Experience, Adult Wage Subsidy Scheme, Special Needs Job Seekers and Disabled On-the-job. *(s)* From 2 December 1985, Commonwealth SYETP became the CWEP element of JOBSTART. Expenditure under these elements in 1985–86 is included in the figure for SYETP. *(t)* Expenditure relates to approvals to 30 November 1985 (except in the case of Commonwealth SYETP where expenditure refers to approvals to 30 June 1986). This program was then replaced by JOBSTART. *(u)* Includes $1.2 million for Formal Training Allowance. *(v)* SkillShare was created from the integration of the Community Youth Support Scheme, the Community Training Program and the Community Volunteer Program. Expenditure shown for 1988–89 is for these last three from 1 July 1988 to 31 December 1988 and for SkillShare itself from 1 January 1989 to 30 June 1989. *(w)* From 1986–87, these elements form part of Locally Based Projects. *(x)* From 1986-87, expenditure on VYP projects is included under the Community Volunteer Program.

LABOUR MARKET PROGRAMS AND SERVICES APPROVALS (a)

Type of program	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Training Programs—						
Vocational Training for Young People—						
Australian Traineeships System	—	—	1,000	7,085	10,166	13,659
Formal Training Assistance for Youth	15,204	15,246	11,845	9,800	*(b)*	*(b)*
Experimental Training Projects	369	630	387	330	*(b)*	*(b)*
Youth Training Program *(c)*	—	—	—	—	11,868	*(d)*
JOBTRAIN	—	—	—	—	—	33,600
Bridging Training for Overseas Qualified Professionals	—	—	—	—	—	170
Trade Training Program—						
CRAFT	81,986	80,300	75,600	89,709	86,615	87,122
Special Apprentice Training	14,537	11,514	*(e)*10,202	*(e)*5,406	5,619	3,862
Adult Training and Retraining						
Adult Training Program *(f)*	—	—	3,090	7,000	15,352	*(g)*
Labour Adjustment Training	3,701	2,765	733	*(h)*190	—	—
Skills in Demand	426	553	*(i)*818	—	—	—
General Training Assistance—						
Formal	1,521	1,766	*(j)*1,331	—	—	—
On-the-job	1,832	1,237	*(j)*640	—	—	—
Formal (Disabled)	93	136	*(j)*39	—	—	—
Industry Training Support—						
Industry Training Services	—	—	—	—	—	13,283
Innovative Training Projects	—	—	—	—	—	11,568
National Skills Shortages	—	—	—	—	—	1,052
Job Creation and Employment Assistance—						
Job Creation—						
Community Employment Program *(k)*	30,450	46,670	37,019	*(l)*21,000	9,659	*(m)*
New Enterprise Incentive Scheme *(n)*	—	—	569	397	400	400
Wage Pause Program *(o)*	17,129	—	—	—	—	—
Employment Incentives—						
JOBSTART—						
Private Sector	—	—	*(q)*35,098	64,860	44,930	40,200
CWEP *(s)*	—	—	—	2,080	—	—
Work Experience—						
Standard SYETP—						
Private	50,718	39,893	*(t)*16,362	—	—	—
Commonwealth	4,621	4,598	3,558	—	—	—
State	789	—	—	—	—	—
Extended SYETP	31,454	24,383	*(t)*10,187	—	—	—
Adult Wage Subsidy Scheme—						
Standard	13,074	11,943	*(t)*5,393	—	—	—
Extended	2,279	2,395	*(t)*1,134	—	—	—
Special Needs Jobseekers	2,097	2,190	*(t)*1,237	—	—	—
Disabled On-the-job	4,140	4,643	*(t)*2,518	—	—	—

For footnotes *see* end of table.

LABOUR MARKET PROGRAMS AND SERVICES APPROVALS (a)—*continued*

Type of program	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Mobility Assistance—						
Relocation Assistance Scheme	2,790	2,290	1,749	2,480	1,890	1,342
Industry Labour Adjustment Assistance	—	—	—	—	1,149	1,148
Community Based and Aboriginal Program—						
Innovative Rural and Education Training Program	—	—	—	—	—	1,500
SkillShare *(u)*	—	—	—	—	—	119,633
Community Youth Support Scheme *(v)*	70,000	75,000	85,000	100,000	100,000	—
Community Training Program—						
Community Youth Special Projects *(w)*	956	1,202	1,331	*(x)*	—	—
Work Preparation Program (Disabled)	460	482	557	*(x)*	—	—
Locally Based Projects	—	—	38	4,350	4,818	—
Information Technology Centres	—	—	—	150	294	—
Community Volunteer Program	—	—	—	7,000	18,000	—
Volunteer Youth Program *(y)*	2,200	3,500	4,100	—	—	—
Aboriginal Employment and Training	9,162	9,998	10,173	11,426	10,971	10,722
Total all programs	**361,988**	**343,334**	**321,708**	**333,263**	**321,731**	**339,261**

Source: Department of Employment, Education and Training

(a) An approval is defined as a person who was approved for, and commenced under, a specific program, for which financial assistance was available. An approval is registered each time an individual commences in a different component of a program, or in different programs, i.e. the total number of approvals can be greater than the number of individuals commencing in any one year. In some programs, the number of training or course places to be funded or job placements/commencements (CEP) are used instead of approvals. These have been included as approvals, given the explanation above. It should be noted that the total number *assisted* under any program in a financial year exceeds the number of approvals, owing to a carry-over between financial years. *(b)* Subsumed under Youth Training Program. *(c)* In 1987–88 the Youth Training Program replaced the under 21 year old element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(d)* Replaced by JOBTRAIN. *(e)* The lower figure in 1986–87 reflects the decision to discontinue the Pre-Apprenticeship Allowance from 1 January 1987. *(f)* This program replaced General Training Assistance Skills in Demand and the formal elements of Special Training for Disabled. Approvals for General Skills Training and National Skills Shortages in 1985–86 relate to the period 1 January 1986 to 30 June 1986. In 1987–88, the Adult Training Program replaced the 21 and over element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(g)* Replaced by JOBTRAIN. *(h)* In 1986–87, this element formed part of General Skills Training; in 1987–88 it formed part of Industry and Regional Employment Assistance. *(i)* Approvals relate to Skills in Demand projects approved prior to 1 January 1986. This program was then replaced by the National Skills element of the Adult Training Program. *(j)* Approvals relate to the period 1 July 1985 to 31 December 1985. This program was then replaced by the General Skills Training element of the Adult Training Program. *(k)* It should be noted that the CEP figures represent placements made in each financial year regardless of the year of project approval. *(l)* This figures includes 400 people assisted under the pilot New Enterprise Incentive Scheme. *(m)* No new approvals made due to closure of program. *(n)* The New Enterprise Incentive Scheme operated as a pilot program under CEP in 1985–86 and 1986–87. *(o)* Funds for this program were appropriated to the Department of Finance, but the program was administered by the State and Territory governments in consultation with the Department of Employment and Industrial Relations. Figures refer to placements recorded by the CES. It should be noted that not all placement activity occurred through the CES. *(q)* Approvals relate to the period 1 December 1985 to 30 June 1986. This Scheme replaced the private sector assistance for Work Experience, Adult Wage Subsidy Scheme, Special Needs Job Seekers and Disabled On-the-job. *(s)* From 2 December 1985, Commonwealth SYETP became the CWEP element of JOBSTART. Total approvals for these elements in 1985–86 are shown against Commonwealth SYETP. Figures for 1986–87 are shown against CWEP. CWEP was abolished from the end of the 1986–87 financial year. *(t)* Approvals relate to the period 1 July 1985 to 30 November 1985. This program was then replaced by JOBSTART. *(u)* SkillShare was created from the integration of the Community Youth Support Scheme, the Community Training Program and the Community Volunteer Program. Approvals shown for 1988–89 are for these last three from 1 July 1988 to 31 December 1988 (55,000 estimated) and for SkillShare itself from 1 January 1989 to 30 June 1989 (64,633). *(v)* No formal approval is required to attend CYSS projects. The figures provided are only broad Departmental estimates of people who attended projects and are based on monthly reports of the number of people who attended projects. *(w)* The trainee allowance under Community Youth Special Projects (CYSP) was payable only to participants in projects which provided full-time courses. Participants in other CYSP projects retained eligibility for unemployment benefit and so were not included in this table. *(x)* From 1986–87, these elements form part of Locally Based Projects. *(y)* Figures relate to young people involved in voluntary activities. In 1986–87, the Volunteer Youth Program was incorporated in the new Community Volunteer Program.

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SALINITY—AN OLD ENVIRONMENTAL PROBLEM

(This special article has been contributed by D.R. Williamson, CSIRO)

In Australia, problems of high salinity have been associated generally with irrigation of soils in semi-arid areas. However, excessive salt content of soils in the much more extensive areas of non-irrigated agricultural land has become significant within the last 50 years, as the ability to clear vast areas of land followed the development of mechanical farming equipment. As the water resources of the continent have been exploited, the increasing demand, particularly since the 1940s, has highlighted the progressive degradation of rivers in many areas. The best known example is the River Murray, though others include the Blackwood River and Murray River in Western Australia, and the Glenelg River in south-western Victoria.

Terms used in salinity

Salinity

Salinity describes the content of salts in soil, or in water. The most common chemical components are sodium, chloride, calcium, magnesium, potassium, bicarbonate and sulphate. The first two components dominate in most of Australia, accounting for 50 to 80 per cent of total salt content.

The salinity of water refers to the content of salts (as milligrams per litre, mg/L) dissolved in the water, usually termed the total soluble salts (TSS). This reflects the method of measurement by summation of the individual ionic components.

The salinity of soil refers to the content of soluble salts contained in the soil, and may be expressed as a percentage by weight of dry soil.

Saline soil

A saline soil contains sufficient soluble salts to reduce or eliminate plant growth.

Soil or water salinisation

Soil or water salinisation is the process of salt accumulation in the soil or water to the extent of adversely affecting the use of the soil for plant growth, or the water for supply to humans, stock, or industry.

The salt content of water affects its electrical conductivity (EC), allowing a simple measurement to be made which is correlated with the TSS content in mg/L.

EC Units

Many water agencies use the term EC Units. This involves a measurement of the electrical conductivity of the water from which salinity is estimated. A commonly adopted relationship is

$$\text{TSS} = 0.65 \text{ EC units}$$

where an EC unit is one milli Siemen/centimetre.

Primary salinity

In Australia, there are areas with naturally saline water or soils in which the salinity levels have always restricted the range of possible uses. This is called primary salinity. They include salt marshes, salt flats and salt lakes, some in coastal regions, others well inland in semi-arid or arid regions. All are associated with highly saline groundwaters and often internal drainage. The estimated area of this type is 14 million hectares (ha). A further 15 million hectares of land in arid and semi-arid regions have naturally saline sub-soils, but no groundwater in the profile. If the vegetation is removed, the salt may be redistributed to the soil surface.

Secondary salinity

Human activities have resulted in adverse changes in the salinity of soils or waters. This is called secondary salinity, and is the type which is the subject of this article. There are two types of secondary salinity depending on the absence or inclusion of a groundwater system in the development and maintenance of salinity. The former type is usually found in the low rainfall pastoral regions of the middle latitudes of Australia. When excessive grazing causes soil erosion, the saline or sodic subsoils are exposed. The high sodium content assists the dispersion of the exposed subsoil to form a thin crust which substantially reduces infiltration of rain water. These areas remain devoid of vegetation, although there is no evidence of significant salt content in the water which runs off during rainfall. These areas are described as **scalds**. They are not associated with a groundwater system nor do they contribute to stream salinity.

Saline seeps

The secondary salinity problems in which groundwater is a key component have an impact on soil, vegetation and water resources. The salinity develops as the result of discharge of groundwater. In irrigated areas these saline soils are frequently termed scalds, but in non-irrigated lands the salt affected areas are called **saline seeps**. A saline seep is an area where salts accumulate at the soil surface as a consequence of the groundwater discharge from a confined or unconfined aquifer.

Excessive soil salinity creates an osmotic effect which makes it more difficult for plants to absorb water from the soil. Excessive salt content of the solution taken up from the soil may also have a toxic effect on the plant.

Soil surveyors have put 0.2 per cent salt content (by weight) as the upper limit for surface soils and 0.3 per cent for subsoils. Water salinity has a recommended upper limit for human consumption of 500 mg/L (TSS), though a salt content up to 1,500 mg/L (TSS) is acceptable, but some medical problems could be expected. Some authorities set upper limits for sodium content since excessive intake may contribute to hypertension. Guidelines for acceptable salinity of water for farm animals show variation depending on animal type and condition. Whereas 2,000 mg/L is the recommended maximum for poultry, dry sheep can maintain condition even at a salinity of 13,000 mg/L provided magnesium content is low.

Extent of secondary salinity of soil and water

A summary of the extent of current human-induced salinity of soil and water is given in the table below.

THE EXTENT OF HUMAN-INDUCED LAND AND WATER SALINITY IN AUSTRALIA

	Area of secondary salinised soils			*Area of shallow groundwater (<2m) in irrigated lands*	*Divertible surface water resources with >1,500 mg/L TSS*	
State	*Scalds '000 ha*	*Saline seeps (non-irrigated) '000 ha*	*Irrigated saline soil '000 ha*	*'000 ha*	*mil. m^3/year*	*% of total*
New South Wales	920	14	10	260	0	0
Victoria	60	100	144	385	220	2
Queensland	580	8	1	0.5	0	0
South Australia	1,200	225	0.5	4.5	82	*(a)*21
Western Australia	340	443	0.5	0	1,024	9
Tasmania	0	8	0	0	0	0
Northern Territory	680	0	0	0	0	0
Total	**3,780**	**798**	**156**	**650**	**1,326**	**1**

(a) Excludes imported water resources via River Murray.

Soil

The major areas of non-irrigated saline soils are in the southern half of the continent, and have an associated impact on the surface water resources. Frequently, the best agricultural land in the valleys is where the saline soils develop. The scalds are located primarily in regions receiving less than 400 mm rainfall per year where grazing of natural vegetation is the dominant agricultural practice. The Murray–Darling Basin supports 75 per cent of Australia's irrigated lands, with the consequence that New South Wales and Victoria contain 99 per cent of the area of saline irrigated soils.

Surface water

Excessive salinity of major divertible water resources in Victoria is found in streams along the south-western coast, and in the Avoca River. Rivers along the Millicent Coast and the Broughton River account for over 80 per cent of the salinised surface water resources in South Australia. In the south-western region of Western Australia brackish and saline waters are 36 per cent of the total divertible resource. The affected streams occur where rainfall is less than 900 mm/year and extensive land clearing has taken place. A further 865 million cubic metres per year (m^3/year) of Australia's surface water resources are in the marginal quality category (between 500 and 1,500 mg/L TSS) located primarily in the same river basins mentioned above.

Groundwater

The extent of salinity in the major groundwater resources in Australia is given in the following table. There is very limited information on the volume of these groundwater resources which have been degraded since European settlement. The major impact appears to be associated with over exploitation for irrigation or industrial use, resulting in salt water intrusion into previously good quality aquifers.

THE EXTENT OF SALINITY IN MAJOR GROUNDWATER RESOURCES IN AUSTRALIA

	Divertible groundwater resources with >1,500mg/L TSS			
State	*Surficial aquifers*	*Sedimentary aquifers*	*Fractured rock aquifers*	*Percentage of total resource*
		—mil. m^3 per year—		%
New South Wales	165	570	0	34
Victoria	0	92	7	11
Queensland	320	43	36	14
South Australia	0	456	5	38
Western Australia	321	508	84	33
Tasmania	6	2	0	6
Northern Territory	2	51	0	1
Total	**814**	**1,722**	**132**	**19**

Source: 1985 Review of Australia's Water Resource and Use. AWRC (1987).

Trend in secondary salinity development

Soils

Dryland salinity is expanding at about 2 per cent per year in Victoria. The average rate of increase in area of salt-affected soil in the south-west of Western Australia has been 6,000 ha/yr in the past 35 years, and no declining trend has been observed in recent years. The estimated area of saline seeps in South Australia has increased by 170,000 ha since 1982, though part of this may be a consequence of better assessment methods being applied. Based on limited data, it was predicted in 1982 that the area of salt-affected non-irrigated land in Australia would be about 900,000 ha by the year 2000. At current trends this will be exceeded.

Shallow water tables

Without artificial drainage, the area of shallow groundwaters is expected to increase in irrigation areas and create conditions leading to increased soil salinity. Within the next 40 years, shallow water tables could underlie 70 to 80 per cent of the Murrumbidgee Irrigation Area, 40 per cent of the Shepparton Region, and 90 per cent of land in the Kerang region. This situation could leave 15 to 25 per cent of the land with salinity high enough to render the land totally unproductive. The extensive drainage program in South Australia's Riverland region has lowered water table levels sufficiently to prevent further increase in soil salinity.

Groundwater

There is a lag between agricultural development and the full expression of its impact on the groundwater system. The effect of clearing may continue to cause rising groundwater levels in the immediate future, and where lag times are tens of years the effect on soil, groundwater and stream salinity may only now be beginning to appear.

The frequency of occurrence of salt water intrusion problems in groundwaters is expected to increase with continuing development in coastal zones, though correct management of extraction will avoid problems. Continuing excessive exploitation of groundwaters in inland areas to meet irrigation demands will lead to rising salinity. This issue will be encountered until the use is managed within the safe yield of the aquifer systems.

Causes of secondary salinity

There are three basic requirements for salt to become an environmental problem:

- a source of salt;
- a source of water in which the salt may be dissolved; and
- a mechanism by which the salt is redistributed to locations in the landscape where it can be damaging, including into rivers.

Over 200 years ago European settlers began the removal of the native vegetation (usually *Eucalyptus* species) for development of both dryland and irrigated agriculture, particularly cereal cropping, grazing of sheep and cattle, and horticulture. This clearing accelerated in the period since 1900. About 3 per cent of agriculturally developed lands are irrigated through government or privately managed water supply schemes.

The source of salt

Many Australian soils have always contained high quantities of salt stored in depths of 30 metres or more. Most of the agricultural soils are quite old in geological terms, with deeply weathered or thick alluvial deposits of clays under the cultivated zone. Soil surveys have shown that about 238 million hectares are classified as containing high quantities of salt. About 50 per cent of these soils have been developed for intensive agriculture. However, this identifies only the salt content of the soil layer which is usually considered to extend to about 1 metre depth below the land surface.

The total salt content for the whole profile to basement rock has been studied extensively in the south-west of the continent. There is a systematic increase in stored salt with decreasing rainfall, ranging from 200,000 kg/ha at about 1,000 mm/yr rainfall to 1 million kg/ha at 600 mm/yr rainfall. Slightly lower quantities of salt have been measured in the northern slopes of Victoria over a similar rainfall range. Approximately 75 per cent of this salt is stored in that part of the profile which was unsaturated with water at the time of vegetation removal. For the deep sandy profiles of the Murray Mallee in South Australia, the unsaturated zone is quite low in stored salt to depths of about 30 metres compared to the groundwater zone below in which the majority of salt is contained.

This accumulation of salt may originate from several sources: the ocean via rainfall, weathering of soil and rock minerals, and marine deposition in earlier geological periods.

The input via rainfall has been measured at 300 kg/ha/year near the coast, about 30 kg/ha/year at 250 km inland, and about 15 kg/ha/year at greater than 600 km inland. The total salt input from rainfall to the 106 million hectares of the Murray–Darling Basin in 1974–75 was measured at about one million tonnes per year. The rate of release of salts due to weathering of soil and rock minerals undoubtedly varies greatly, but addition to the soil profile is believed to be less than one-hundredth of that brought in by rainfall. Using the present salt input data, the measured salt storages could have been accumulated during the last 60,000 years.

In irrigation areas, the salt stored in the soil is supplemented by salt brought in via the irrigation water applied. The application of 1 metre depth of water with a salt concentration of 500 mg/L TSS adds 5,000 kg of salt to each hectare of irrigated land.

These data identify the accumulations in recent geological times as the major source of salt. This salt is located in both the unsaturated zone of the profile and also in the accumulated groundwater where concentrations as high as 20,000 mg/L TSS are not uncommon.

The source of water

The change from deep-rooted perennial plants to shallow-rooted annual crops and pastures produces a reduction in evapotranspiration and an increase in net precipitation, that is, an increase in the amount of rainfall actually reaching the soil surface. Removal of the native vegetation decreases the interception loss estimated at between 9 and 13 per cent of rainfall in experimental forested catchments in Western Australia. The overall result is an increase in the` volume of water draining below the root zone of the agricultural plants, and a cessation of any withdrawal of water by plants from the groundwater during periods of low rainfall. Groundwater levels rise and, even if no change in the gradient of the water level occurs, there will be an increase in the volume of water moving towards discharge sites either at a seepage area, or directly into a stream, at a lower elevation in the landscape.

The initial effect is usually an increase in the quantity of groundwater moving into the stream so that the impact is dependent on the salinity of the groundwater nearest the stream. The clearing of the land also increases the amount of surface run-off, which, because of its low salt content, dilutes the additional salt added to the stream from groundwater. The table below gives examples of the increase in salt load of streams due to clearing within the catchments.

The source of water for mobilising salt in irrigated lands is the excess water applied during irrigation. It is recommended practice to apply excess water above plant needs to leach away the salt which would otherwise accumulate in the root zone. The ability to control the volume applied for leaching is difficult. Excess application is often compounded by management practices because the timing of water application is often determined by water supply rather than by plant demand for water.

EXAMPLES OF SALT LOAD INCREASE IN RIVERS FOLLOWING CLEARING FOR AGRICULTURE

River Catchment	*Factor by which saltload has increased*
Dale River (WA)	19
Collie River (East) (WA)	15
Axe Creek (Vic.)	10
Avoca River (Vic.)	10
Finniss River (SA)	8
Bremer River (SA)	6
Hughes Creek (Vic.)	4
North Para River (SA)	4

Excessive irrigation brings salt to the surface. Griffith, NSW.

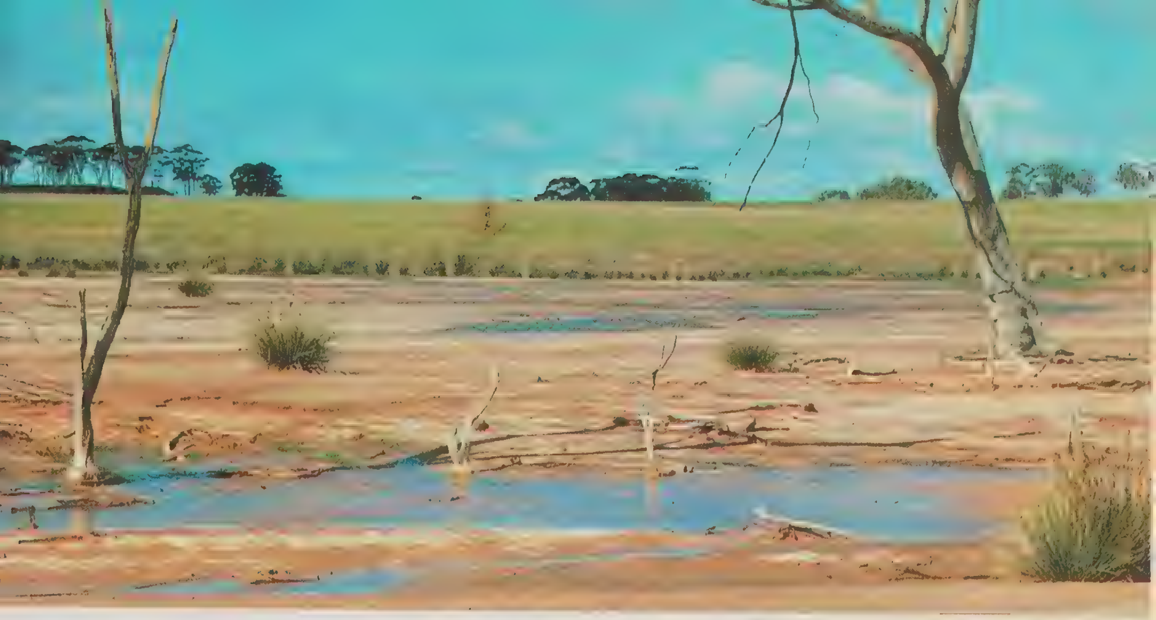
High groundwater levels and water-logging contribute to salinity.

Dead forest in Salty Marshland South-west WA.

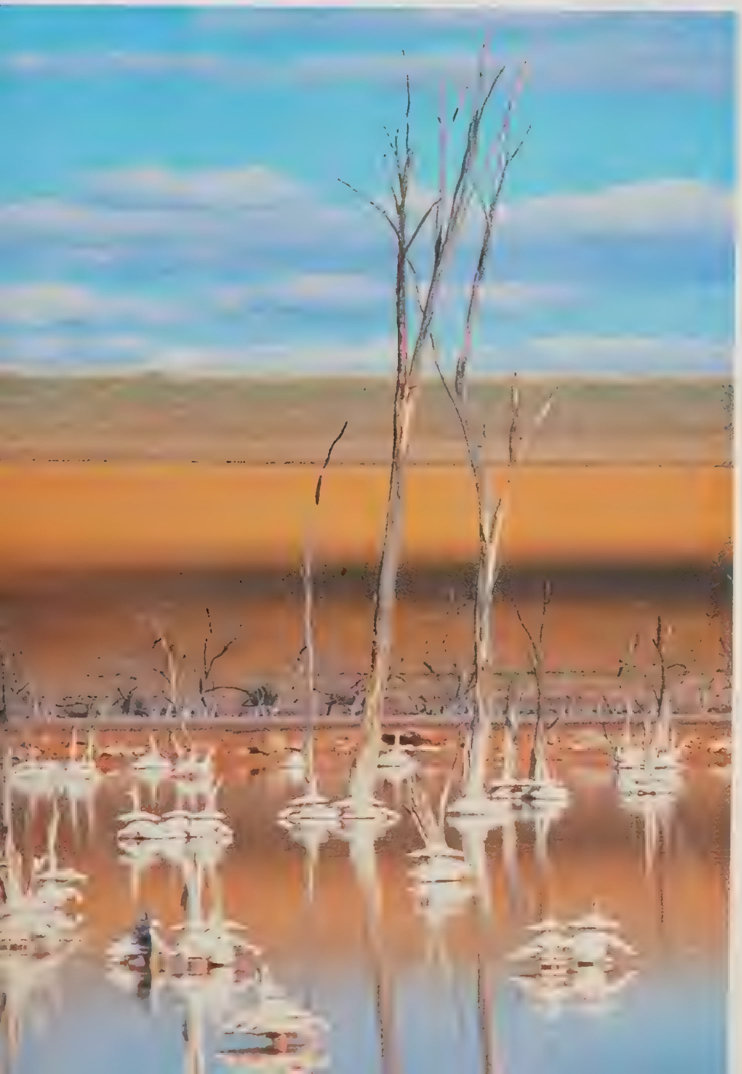
Oak and eroded soil.

Salt crystal deposits above the waterline at Quairading, Western Australia.

Agriculturally productive land now barren wasteland. Western Australia.



Salinity seepage area in the wheatbelt of WA.



Salt deposits formed on the base of trees at Quairading, Western Australia.

Salt encrusted surface in North-west NSW.

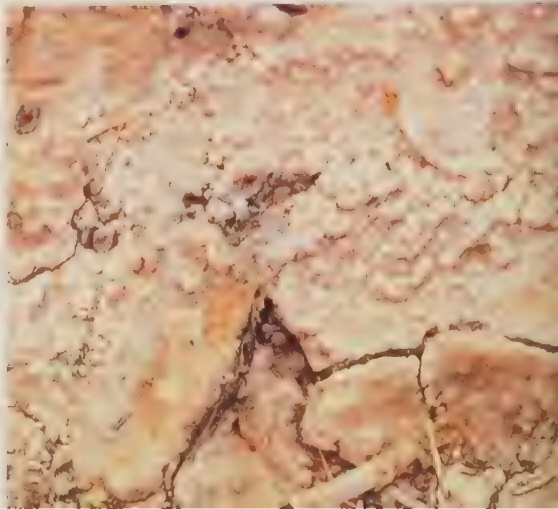
Salinity induced erosion at Yass catchment, NSW.

Salinity encroaching on productive land near Griffith, NSW.

Salinity in the wheatbelt of Western Australia.

Salinity developing in Cooke Plains, SA.

Crusts of salt.



The mechanisms for redistributing salt

The salinity problem is a groundwater problem. This identifies the primary mechanism by which redistribution of salt occurs. Stored salt is dissolved by the water moving vertically and horizontally underground and transferred to places of lower elevation in the landscape. A saline seep is a zone of groundwater discharge. Often this discharge occurs directly into the bed of a stream.

The patterns of subsurface water movement in a landscape are complex, depending on the variations in porosity of soils and rocks, the existence of layers with different hydraulic properties, the distribution of the input of water from the land surface modified by plant type and density, and the relief of the landscape. The groundwater may occur as an unconfined aquifer in one part of the landscape leading into a confined aquifer further down-slope. Analysing this variability has been aided significantly by computer modelling, though obtaining the data for parameters in the models is a challenge.

Thus it is often difficult to determine why a saline seep exists where it does, or where the major water input (recharge) areas are located, without carrying out a drilling program to examine the profile features and monitor the groundwater hydrology. The heterogeneous nature of the soil and weathered zone materials underground was ignored until about 10 years ago.

Despite the complexity, a number of important hydraulic factors have been established. Usually the groundwater conveying salt to seepage zones has to move through weathered rock material such as clay which has a resistance to the movement of the water. Frequently there is a two layered groundwater system. The shallow aquifer is usually the dominant source of water with the deeper aquifer the major source of salt discharging to the saline seeps and into streams.

Geophysical methods are being increasingly employed to identify the features which control the movement of water and salt. The location of saline seeps is often related to subsurface structural features. An example is an elevated basement rock which acts like a subsurface dam wall.

Irrigation areas are generally located in landscapes of low relief. The excess irrigation water develops a groundwater mound underneath the area from which the horizontal flow of groundwater has a low gradient. Consequently, drainage into regions outside the irrigated area are quite limited. If in the surrounding dryland agriculture lands there is some groundwater recharge due to the removal of native vegetation, the drainage of groundwater from the mound of water under the irrigation area can be further retarded.

Government action

The concern for salinisation has been expressed in the establishment by State governments of committees to make a major investigation of the problems: firstly in Western Australia (early 1970s), then Victoria (1982), New South Wales (1987) and South Australia (1989). In a major policy statement in 1989, the Federal Government confirmed that salinity change in Australian agricultural landscapes was a large component in the degradation of the environment, and focused on the urgent need to halt and reverse the trends.

The River Murray and the country it drains has suffered enormous problems of salinity and associated land degradation for many decades. The River Murray Water Agreement (1914) has been the legislative vehicle for management of water quantity only. It was not until 1981 that water quality was included. An historic agreement in 1985 established the Murray–Darling Basin Ministerial Council with the task of promoting and coordinating effective management and planning for the Basin. The Council has already developed a major salinity and drainage strategy. The current salinity of the river is set as the quality baseline against which future changes will be gauged. Joint funding by the State governments of New South Wales, Victoria and South Australia, plus the Federal Government will implement new salt interception and land use management schemes. There has been agreement that future disposal of salt into the river must be offset by dilution or removal of salt sources elsewhere in the basin.

Salinity management

It would be virtually impossible to eliminate all the stored salt, therefore, salinity management strategies need to eliminate the source of water or modify the mechanism which redistributes the salt.

Engineering

The engineering solution uses pumps, wells and ditches to establish drainage systems. This has been the normal procedure to control salinity in irrigation areas in Australia. In some cases gravity drainage schemes have been possible. Final disposal is often by pumping the excess water either to remotely located evaporation basins for return to the river at high flow periods, or, if quality is satisfactory, back into the supply channel.

Large costs have been incurred for drainage schemes aimed at controlling and possibly reducing the salinity of the water of the River Murray passing into South Australia. Some are on-farm schemes managed by the owner with government control of effluent disposal. Major sources of saline groundwater flow to the river down stream of Echuca are intercepted and the water pumped to evaporation basins. Rather than use the river as both water supply and drainage ditch, a proposal for a pipeline to convey saline effluent to the ocean is currently the subject of a feasibility study.

The use of engineering methods for groundwater control in non-irrigated lands has been minimal because the economic costs are high. In some drainage studies maintenance problems have discourage further experimentation. A major problem is the difficulty of disposal of the saline (often above sea water concentration) effluent without associated stream degradation.

Reducing excess recharge

It is generally accepted that the long-term solution to the salinity problem is through prevention of excess groundwater recharge. The water which currently passes beyond the root zone needs to be fully used in plant production. Because the excess recharge occurs over a large part of the landscape, though at variable rates, an approach involving the whole landscape is essential.

In irrigation areas there have been numerous methods tried to reduce excess recharge. Uniformity in infiltration of water applied during irrigation is achieved through the use of laser controlled land forming and grading, and this also assists the removal of excess surface water. For heavy textured soils land levelling is estimated to reduce groundwater accessions by 30 per cent for perennial and 60 per cent for annual pastures. The timing of the irrigation is equally important and demand scheduling techniques have been established which use climatic, plant and soil characteristics to establish time and volume of water application.

For the non-irrigated landscape the amount of rainfall which causes the rising water tables has been found from mass balance studies to be less than 10 per cent of annual rainfall, and often about 5 per cent. Agronomic management through use of different cropping rotations and alternative species is the most promising approach to increasing water use. Subterranean clover pastures have been found to be poor users of water by virtue of a shallow root system. The use of deeper rooted crops and pastures, and elimination of any period of fallow, are recommended. Cultivation practices are being examined as some produce compaction of the soil below the cultivated layer which may restrict root penetration. Simulation studies have suggested that increasing plant rooting depth to between 1 and 2 metres would provide the additional water use required to control recharge.

Although studies have been underway for many years, there is no recommended practical method which can demonstrate the reclamation of a saline soil or river. The very nature of the problem and potential solutions require long term field trials. However, many of the components which are expected to form part of the solution are reasonably well understood. Consequently, these have been used to develop 'best-bet options' for whole-of-landscape management. The involvement of land owners is a vital factor as economic and social issues will be as important as environmental issues in achieving a satisfactory reclamation strategy.

Stopping clearing in catchments

An obvious control option is to stop clearing land in catchments which have substantial flows of good quality water but show a trend of increasing salinity. Legislation has been enacted in Western Australia which prohibits further clearing in five water supply catchments. The opening up of new farm land in the Glenelg River (Vic.) basin did not proceed in the 1960s because it was shown that salinity of the Rocklands Reservoir would increase to unacceptable levels.

Reafforestation

Reafforestation has received considerable support as the primary means of controlling non-irrigated salinity. The earliest work involved planting of trees immediately upslope of the saline seep, anticipating that the trees would act as biological drainage pumps. This has not achieved the success hoped for, although there has been some lowering of groundwater levels. The Water Authority in Western Australia has used a strategy of tree plantings in discharge areas to reduce the quantity of saline water seeping into streams. The lowering of groundwater levels by less than 1 metre over several years has occurred, but there has been an associated reduction in surface run-off which has affected the net salt concentration of stream flow.

There is no doubt that more trees are needed in rural landscapes, but they will be only part of the answer for economically reducing the cause of salinity. Tree plantations of varying densities have been established both for experimental purposes and by private land owners. It has been found that the impact on reducing groundwater levels is related to the percentage of the landscape reforested. The location and area of reafforestation will probably be determined by knowing where the major recharge areas occur in a landscape. Scientists are placing this issue high on the priority list for research.

Agroforestry

Combining crops and pastures with strips of trees, the agroforestry approach, has considerable appeal because it appears to include the most favourable economic benefit. Considerable knowledge has been gained in the cultural practices required to establish and maintain a viable agroforestry system including aspects such as the amount of damage to trees by stock, the effect of certain tree species in suppressing growth of grasses adjacent to the trees, and the spacing between rows of trees. A new industry of tree farming has emerged in agricultural areas where there is a demand for pulpwood.

Salt land can be used

While efforts have been made to develop strategies to control dryland salinity, the management of the saline areas to obtain some economic return from otherwise waste land has been successful. The grazing potential of salt tolerant species and the grazing management procedures for a sustainable saltland pasture have been established particularly in Western Australia. It has been found that water loss from vegetated saline areas is considerably better than from bare saline soil.

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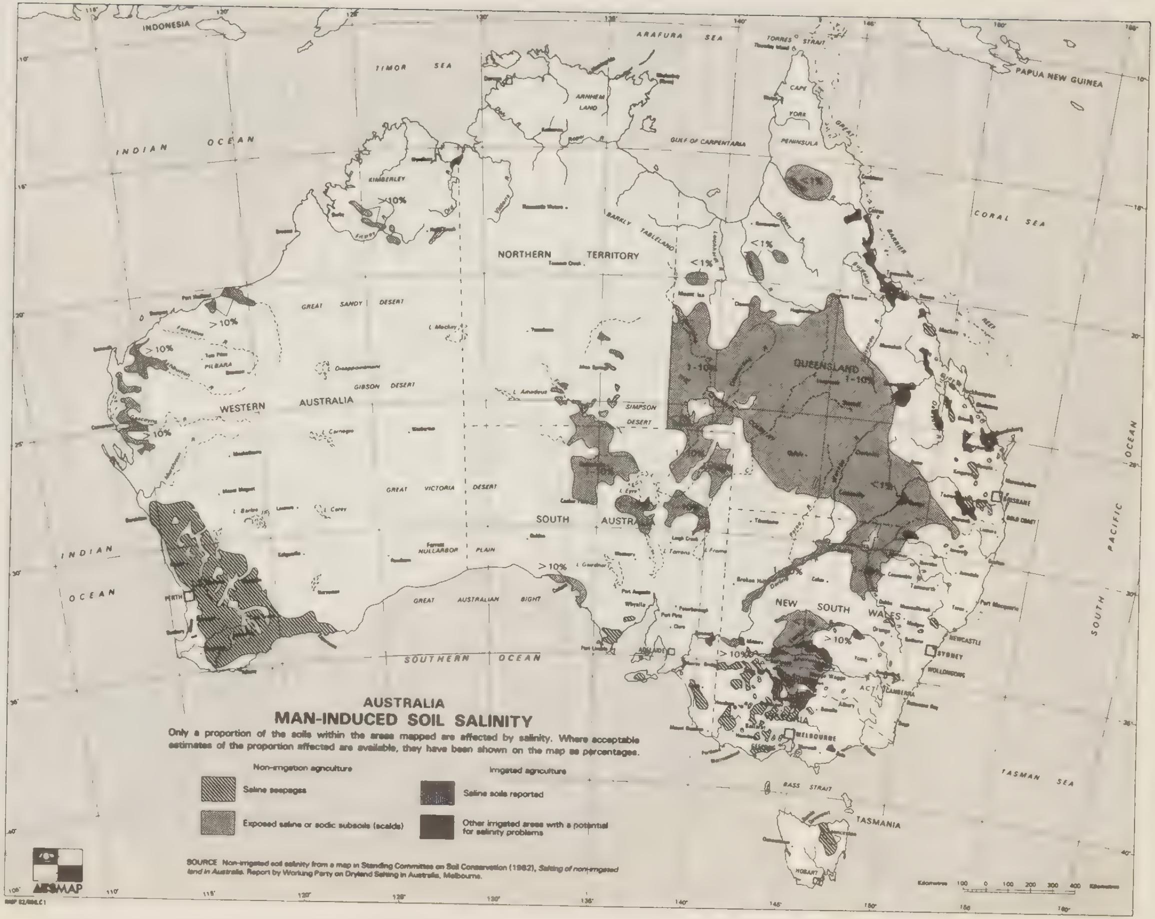

INDONESIA
PAPUA NEW GUINEA
TIMOR SEA
ARAFURA SEA
TORRES STRAIT
INDIAN OCEAN
CORAL SEA
GULF OF CARPENTARIA
ARNHEM LAND
CAPE YORK PENINSULA
GREAT BARRIER REEF
KIMBERLEY
>10%
NORTHERN TERRITORY
BARKLY TABLELAND
<1%
<1%
GREAT SANDY DESERT
PILBARA
>10%
>10%
GIBSON DESERT
WESTERN AUSTRALIA
10%
QUEENSLAND
1-10%
1-10%
1-10%
SIMPSON DESERT
L Amadeus
L Eyre
L Torrens
L Frome
L Gairdner
L Carnegie
L Barlee
L Carey
L Mackay
GREAT VICTORIA DESERT
SOUTH AUSTRALIA
NULLARBOR PLAIN
>10%
<1%
NEW SOUTH WALES
>10%
>10%
ACT
CANBERRA
PERTH
ADELAIDE
MELBOURNE
SYDNEY
NEWCASTLE
WOLLONGONG
BRISBANE
GOLD COAST
HOBART
GREAT AUSTRALIAN BIGHT
SOUTHERN OCEAN
PACIFIC OCEAN
SOUTH
TASMAN SEA
BASS STRAIT
TASMANIA
Kilometres 100 0 100 200 300 400 Kilometres
AUSMAP

AUSTRALIA
MAN-INDUCED SOIL SALINITY

Only a proportion of the soils within the areas mapped are affected by salinity. Where acceptable estimates of the proportion affected are available, they have been shown on the map as percentages.

Non-irrigation agriculture		Irrigated agriculture	
▨	Saline seepages	■	Saline soils reported
▒	Exposed saline or sodic subsoils (scalds)	■	Other irrigated areas with a potential for salinity problems

SOURCE Non-irrigated soil salinity from a map in Standing Committee on Soil Conservation (1982), *Salting of non-irrigated land in Australia*. Report by Working Party on Dryland Salting in Australia, Melbourne.

8

SOCIAL SECURITY AND WELFARE

Commonwealth Government Expenditure on Social Security Services

This section deals with various Commonwealth Government payments for the relief of the aged, disabled, widowed persons, sole parents, the orphaned, the unemployed and the sick, as well as assistance to families, etc. On 1 July 1947, with the passage of the *Social Services Consolidation Act 1947*, all Acts providing social service benefits were amalgamated. The Act is at present styled the *Social Security Act 1947*.

The main social security payments provided by the Commonwealth Government under the Social Security Act, as at June 1989, and the date on which each came into operation, are shown below.

Age pension	1 July 1909
Invalid pension	15 December 1910
Family allowance	1 July 1941
Widow's pensions	30 June 1942
Funeral benefit	1 April 1943
Unemployment benefit	1 July 1945
Sickness benefit	1 July 1945
Special benefit	1 July 1945
Sheltered employment allowance	30 June 1967
Wife's pension (superseded wife's allowance)	5 October 1972
Double orphan's pension	26 September 1973
Rehabilitation allowance	1 March 1983
Mobility allowance	1 April 1983
Carer's pension (subsumed spouse carer's pension)	1 November 1985
Child disability allowance (superseded handicapped child's allowance)	15 November 1987
Family allowance supplement (superseded family income supplement)	17 December 1987
Job search allowance	1 January 1988
Sole parent's pension (superseded supporting parent's benefit and Class A widow's pension)	1 March 1989
Widowed person's allowance (Class C widow's pension extended to males)	1 March 1989

Details of the respective rates of pensions and benefits and details of associated allowances available to certain recipients are shown, along with more specific eligibility criteria, in the Annual Report of the Department of Social Security.

Age and invalid pensions and associated payments

Age pension is payable to men and women who have reached the ages of 65 and 60 respectively. Age pension is generally subject to residence qualifications, an income test and an assets test.

Invalid pension is payable to persons aged 16 years or more who are at least 85 per cent permanently incapacitated for work, of which at least 50 per cent is directly caused by a physical or mental impairment of the person. It is also payable to persons who are permanently blind. Invalid pension is paid subject to residence qualifications, an income test and an assets test. Pensions paid to the permanently blind are not subject to income and asset tests.

Sheltered employment allowance is payable to disabled people who are employed in approved sheltered employment services and are otherwise qualified to receive an invalid pension or would become so qualified should they cease to be provided with sheltered employment. The allowance is subject to the same income and assets tests as apply to the invalid pension and is paid at the same rate. It is payable in the form of a supplement to the sheltered employee's wages.

Rehabilitation allowance is payable to people who receive assistance through the Commonwealth Rehabilitation Service, and who would otherwise be eligible to receive a social security payment. It is subject to the same income and assets tests as the invalid pension, and similar additional benefits are available.

A wife's pension is payable to the wife of an age or invalid pensioner when she is not entitled, in her own right, to an age or invalid pension or rehabilitation allowance. The spouse of a person receiving sheltered employment allowance (and in certain circumstances, a rehabilitation allowance) does not receive a wife's pension as such, but an equivalent payment is made. There is no residence qualification, but an income and assets test does apply.

A carer's pension is payable to a person providing constant care and attention for a severely disabled age or invalid pensioner where the carer is not eligible for a pension in his or her own right.

Additional pension is payable, subject to the income test, for each dependent child under 16 years (at a higher rate for children aged 13–15) and dependent full-time students aged 16 to 24 years, who are not in receipt of a prescribed educational allowance (e.g. AUSTUDY). Widowed or other unmarried age or invalid pensioners with a dependent child may, in addition, receive a guardian's allowance. Rent assistance, combined with the basic pension or benefit rate is assessed under the general pension or benefit income test. It is available to pensioners if they pay rent or pay for lodging, or board and lodging. All recipients of sheltered employment allowance and certain others receive a means-test free incentive allowance in lieu of rent assistance. Remote area allowance is payable to pensioners living in certain remote areas. Mobility allowance, which is means-test free, is payable to disabled people who are undertaking vocational training or gainful employment and who are unable to use public transport without substantial assistance because of their disability.

AGE PENSIONERS: 30 JUNE

Age	*1987*	*1988*	*1989*
60–64 years	r161,553	163,525	166,007
65–69 years	r297,272	301,362	308,684
70–74 years	r325,977	312,339	295,879
75 years and over	r537,372	551,588	563,740
Total	**r1,322,174**	**1,328,814**	**1,334,310**
Number of wife's/carer's pensioners	r24,751	25,290	26,188
		—$'000—	
Total payments during year *(a)*	6,257,148	6,972,771	7,516,110

INVALID PENSIONERS: 30 JUNE

Age	*1987*	*1988*	*1989*
16–19 years	7,772	7,809	7,863
20–39 years	60,123	60,980	62,274
40–59 years	156,874	158,196	161,244
60 years and over	64,281	69,928	76,414
Total	**289,050**	**296,913**	**307,795**
Number of wife's/carer's pensioners	90,157	91,973	94,321
		—$'000—	
Total payments during year *(a)*	1,912,167	2,188,388	2,415,564

(a) Includes allowances, rent assistance, and wives' pensions where applicable.

At 30 June 1989 173 sheltered employment services were paying the allowance to 10,120 disabled employees and 315 wives. Expenditure during the year 1988–89 was $73.2 million.

At 30 June 1989, there were 2,063 persons in receipt of rehabilitation allowances. Expenditure during the year 1988–89 was $17.7 million.

Sole parent's pension, widowed person's allowance and associated payments

Sole Parent's Pension

Sole parent's pension was introduced from 1 March 1989. It amalgamated the former Class 'A' widow's pension and supporting parent's benefit, the two income support payments for people bringing up a child or children without a partner. All persons who were receiving either payment at 1 March 1989 were transferred to sole parent's pension without any change to their eligibility.

Maximum rates are identical to those applying to age pension.

Sole parent's pension may be paid to a person who has a 'qualifying child'. This is a child under 16 years or a child attracting child disability allowance, and who is:

- a natural or adopted child; and
- in the person's legal custody; or has been in the person's care and control for 12 months and likely to remain so permanently or indefinitely.

Sole parent's pension may be paid to:

- a separated husband or wife, or a separated de facto husband or wife;
- a person whose legal or de facto spouse has been imprisoned (including remanded in custody) for at least 14 days;
- a widow or widower;
- a person whose de facto spouse has died;
- a divorced person;
- a person who is unable to live with the spouse or de facto spouse in the matrimonial home because of the spouse's or de facto spouse's long-term illness or infirmity; and
- an unmarried person.

Widowed Person's Allowance

Widowed person's allowance was introduced from 1 March 1989 and replaced Class 'C' widow's pension.

Widowed person's allowance provides short term assistance for recently bereaved widowed persons, both male and female. It allows a period of adjustment to make funeral arrangements, settle financial matters or to seek employment. The allowance may be granted to a person who, immediately before his or her spouse's death, was either legally married or living in a de facto relationship with that person.

There is no age restriction on the payment of widowed person's allowance but the allowance cannot be paid concurrently with another pension, benefit or allowance. Widowed persons with dependent children generally qualify for sole parent's pension immediately.

The allowance is payable for up to 12 weeks after the date of the spouse's death, although payment can be extended if a widow is pregnant at the time of her spouse's death. Otherwise, the allowance is paid under the same conditions as other pensions.

Class 'B' widow's pension

From July 1987, gradual phasing out of the Class 'B' widow's pension began. From that date, no new grants were made except to women who were in circumstances which would have made them eligible before that date.

It was payable to a widow who, because she had no qualifying children or students in her custody, care and control, was not eligible for a Class 'A' widow's pension, but was either at least 50 years of age or, after having reached the age of 45, has ceased to receive a Class 'A' pension by reason of ceasing to have a qualifying child or student.

In addition to the basic pension, a mother's/guardian's allowance and additional pension for each dependent child are payable. Rent assistance is also available if they pay rent or pay for board or lodging. Remote area allowance is payable if living in certain remote areas.

WIDOW PENSIONERS/WIDOWED PERSONS ALLOWANCE, BY TYPE AND AGE: 30 JUNE

	1987	*1988*	*1989*
Class 'B' widow pensioners aged—			
45–49 years	4,288	6,540	5,182
50–54 years	20,188	21,259	19,589
55–59 years	37,867	38,879	37,773
60 years and over	19,764	20,014	20,982
Widowed person's allowance	137	110	116
Total	**82,244**	**86,802**	**83,642**
		—$'000—	
Total payments during year *(a)*	432,963	505,116	535,200

(a) Includes payment to benevolent homes for maintenance of pensioners. It also includes rent assistance and allowances.

SOLE PARENT PENSIONERS, BY AGE AND TYPE: 30 JUNE

	1987	*1988*	*1989*
Age—			
Under 20 years	9,756	9,508	9,564
20–29 years	85,703	86,247	86,347
30–39 years	98,893	94,751	96,234
40–49 years	47,159	40,910	40,652
50–59 years	11,976	6,996	6,427
60 years and over	420	244	245
Type of pensioner—			
Females—			
Unmarried mothers	45,014	45,654	46,590
Widows	15,822	11,960	10,978
Divorcees	34,786	30,393	26,842
Separated wives	124,351	123,058	127,805
Separated de facto wives	18,698	17,662	17,074
Males—			
Widowers	1,037	837	793
Divorcees	1,394	1,126	1,020
Separated husbands	6,412	6,721	7,140
Separated de facto husbands	1,055	881	819
Other	338	364	408
Number of pensions	248,907	238,656	239,469
		—$'000—	
Total payments during year *(a)*	1,886,405	2,004,545	2,131,986

(a) Includes rent assistance and allowances.

Child Support Scheme

Stage 1 of the Child Support Scheme commenced in June 1988 with the establishment of the Child Support Agency (CSA) in the Australian Taxation Office. Under Stage 1 of the Scheme, maintenance orders and agreements made, registered or approved by the courts can be enforced by the CSA. The Agency collects child support from liable parents and these payments are distributed to custodial parents on a monthly basis by the Department of Social Security. The collection of child support is by automatic withholding of payments by employers in the case of PAYE tax payers and, in the case of self-employed people, by direct monthly payments to the CSA.

Stage 2 of the Scheme, which began on 1 October 1989, replaced the system of court ordered child maintenance. Instead, if parents cannot agree, the custodian can apply to the CSA which will administratively assess the amount of child support using a formula set out in legislation. Stage 2 is prospective in that it applies only to people who separate or have a child born on or after 1 October 1989.

Unemployment, sickness and special benefits and associated payments

Unemployment benefit is payable to persons over 18 and under age pension age, who are unemployed. Job search allowance is payable to unemployed persons aged 16 to 17 years to encourage the active search for jobs. Sickness benefit is payable to persons aged at least 16 years, but under age pension age, who are temporarily incapacitated for work. They must be an Australian resident. Both unemployment and sickness benefits are subject to an income test, and an assets test also applies to beneficiaries aged 25 years and over. Job search allowance is subject both to a parental income test and a personal income test. A person cannot receive the benefits simultaneously, nor can a person receive a benefit at the same time as an invalid, widow's, service pension or sole parent's pension.

For unemployment benefit purposes, people must establish that they are unemployed, that their unemployment is not due to industrial action by themselves or by members of a union of which they are a member. They must also be capable and willing to undertake suitable work, and be taking reasonable steps to obtain such work. Registration for employment with the Commonwealth Employment Service is necessary. For sickness benefit purposes, people must establish that they are temporarily incapacitated for work because of sickness or injury and that they have thereby suffered a loss of income.

A special benefit may be granted to persons not qualified for unemployment or sickness benefit who are not eligible for any pension, and who, because of age, physical or mental disability or domestic circumstances, or any other reason, are unable to earn a sufficient livelihood for themselves and their dependants. Recipients of special benefits include, among others, persons ineligible for a pension or benefit because of lack of residence qualifications and migrants in government accommodation centres awaiting their first employment in Australia. The benefit is designed to meet cases of special need and may also be paid as income support over a period if no other social security benefit is payable. The rate paid may not exceed the rate of unemployment or sickness benefit.

All beneficiaries with dependent children are eligible for an additional benefit for each dependent child except where the dependent child is in receipt of a prescribed educational allowance. In addition, sole parents are eligible for mother's/guardian's allowance. Rent assistance is also payable to beneficiaries who have at least one child under 16 years, and other beneficiaries after six continuous months on benefit provided they pay sufficient rent other than to a public housing authority if they are over 24 or married, or if they are aged 18–24 provided they live away from the parental home. A young homeless allowance is available to recipients of job search allowance, and to sickness and special beneficiaries under 18 years, who are homeless and without parental or custodial support. Job search allowance recipients who have established long term independence from their parents may also receive a higher independent rate.

UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS: YEAR ENDED 30 JUNE

	1987	*1988*	*1989*
Unemployment beneficiaries (including job search allowees) *(b)*—			
Number of new benefits granted	829,560	728,438	689,981
Number on benefit at end of year	550,850	475,070	390,001
Average number on benefit at end of each week during year	574,385	502,514	429,350
Sickness beneficiaries—			
Number of new benefits granted	109,867	108,772	110,369
Number on benefit at end of year	70,261	75,060	78,818
Average number on benefit at end of each week during year	67,748	74,557	76,759
Special benefit beneficiaries—			
Number of new benefits granted	82,563	112,907	133,275
Number on benefit at end of year	19,875	22,646	25,301
Average number on benefit at end of each week during year	19,158	21,598	23,929
		—$'000—	
Amount paid during year *(a)*—			
Unemployment and job search allowance *(b)*	3,453,802	3,374,879	3,135,640
Sickness	429,368	511,042	552,970
Special benefit	124,607	150,800	178,310

(a) Includes additional allowances. (b) Job Search Allowance began on 1 January 1988.

Fringe benefits

The Commonwealth Government makes several non-cash 'fringe benefits' available to pensioners and recipients of sickness benefits, and their dependants, who are entitled to a Pensioner Health Benefits (PHB) card or, in the case of sickness beneficiaries, a Health Benefits (HB) card. The issue of a PHB card is subject to a special income and assets test. The benefits include:

- a range of free pharmaceuticals;
- a one-third reduction in telephone rental (subject to the income of co-residents);
- reduced fares for Commonwealth Government railway services;
- postal redirection concessions;
- free hearing aids services.

State and Territory governments, local government authorities and private organisations also provide certain fringe benefits. The most valuable of these are reductions in local government rates and in public transport charges.

There were 1,809,553 pensioners at 30 June 1989 with PHB cards entitling them to Commonwealth pensioner fringe benefits.

Unemployment and special beneficiaries, and other persons on low income, receive a Health Care card entitling them to a range of pharmaceuticals at a concessional rate. This concession is also available to pensioners whose income and assets exceed the qualifying limits for fringe benefits and who are provided with a Pharmaceutical Benefits (PB) card.

Family allowances

Family allowance is payable, subject to an income test, to a person with children under 16 years or dependent full-time students aged 16 to 24 years who are not in receipt of a pension, benefit or allowance in their own right or prescribed educational allowance. An additional allowance, also subject to an income test, is payable in respect of multiple (three or more) births until the children turn six years. Payment is usually made to the mother. Approved charitable, religious or government institutions are paid family allowance for children in their care.

Generally, to be granted an allowance the person and the child must be in Australia and be Australian citizens, or intend to remain in Australia permanently.

FAMILY ALLOWANCES: 30 JUNE 1989

Number of children and students in family	*Number of families*						
	NSW/ACT (a)	*Vic.*	*Qld/NT*	*SA (b)*	*WA*	*Tas.*	*Aust.*
1	244,262	176,179	131,147	62,990	65,825	20,550	700,953
2	264,932	196,523	140,802	69,904	76,981	22,763	771,905
3	117,170	86,500	63,962	26,008	33,210	9,785	336,635
4	32,937	22,654	18,698	6,134	8,670	2,695	91,788
5	6,702	4,508	4,187	1,111	1,662	556	18,726
6	1,889	1,116	1,160	244	468	116	4,993
7	506	297	351	57	124	33	1,368
8	160	113	100	28	31	8	440
9	49	31	42	4	11	2	139
10 or more	21	20	18	3	6	—	68
Total families	**668,628**	**487,941**	**360,467**	**166,483**	**186,988**	**56,508**	**1,927,015**
No. of children in families	1,307,458	951,723	710,766	313,048	366,516	109,802	3,759,313
				—$'000—			
Amount paid during year	461,228	331,968	247,311	108,517	127,656	38,216	(c)1,314,893

(a) Excludes Broken Hill Regional Office. (b) Includes Broken Hill Regional Office. (c) Includes an amount of $3,000,000 recovered from overseas.

Family allowance supplement

Family allowance supplement is paid subject to income and assets tests to low-income families with one or more children eligible for family allowance so long as they are not in receipt of any Commonwealth pension, benefit or allowance which provides additional payment for dependent children, and so long as the children of these families are not receiving means-tested Commonwealth payments. Levels of payment are age-related and are linked to the rates of additional pension or benefit for children. Rent assistance is also available to recipients of family allowance supplement if they pay rent other than to a public housing authority. The number of families in receipt of family allowance supplement at 30 June 1989 was 164,746. The amount paid during the year 1988–89 was $399,954,400.

Child disability allowance

Child disability allowance may be paid to a parent or guardian of a child under 16 years or a dependent full-time student aged 16 to 24 years who has a physical, intellectual or psychiatric disability. For the allowance to be payable, the disabled child must need and receive daily care and attention and must be living in the family home. The allowance is not subject to an income test, but a residence qualification similar to that for family allowance applies. The number of child disability allowances being paid at 30 June 1989 was 36,777. The total amount paid through these allowances during the year 1988–89 was $50.9 million.

Double orphan's pension

Double orphan's pension is payable free of means test with respect to children under 16 years, or dependent full-time students aged 16 to 24 years whose parents are both dead or one parent is dead and the other is not available to care for the child. The family allowance residence test applies. The pension may also be paid with respect to a refugee child whose parents are both outside Australia, or their whereabouts is unknown.

Mobility allowance

Mobility allowance is a payment, free of means test, for disabled people unable to use public transport without assistance who are employed or undertaking vocational training.

Bereavement allowance

From January 1990 eligible pensioners will receive bereavement allowances in respect of a deceased spouse equivalent to 14 weeks payment that would have been made to the spouse for that period. Allowances will be available in lump sum form to assist with funeral and associated expenses. The estate of a deceased single pensioner will be entitled to the next fortnightly instalment of pension following death. These arrangements supersede Funeral Benefit and Special Temporary Allowance provisions.

Social security—portability and reciprocal agreements

Australian pensions, with the exception of widows' pensions for non-de jure widows, supporting parents' benefits and carers' pensions, can be transferred abroad once they have been granted. Since 1 July 1986, the rate of pension to be paid abroad is proportional to the period of Australian residence during a 25 year working life. The number of Australian pensions paid abroad under portability provisions at 30 June 1989 was 27,106.

Australia has comprehensive reciprocal social security agreements with the United Kingdom, New Zealand, Italy and Canada. Negotiations and discussions are proceeding with major migrant-source countries in order to establish a network of agreements. The purpose of the network is to protect the social security rights of people who divide their working lives between Australia and other countries.

Employment assistance schemes

In conjunction with the Departments of Employment, Education and Training, and Community Services and Health, the Department of Social Security administers the Jobs, Education and Training (JET) and NEWSTART programs. Both programs are designed to provide intensive assistance to sole parent pensioners and long-term unemployed respectively to re-enter the work force or to undertake training or education to prepare for workforce re-entry. The Job Search Allowance also involves active participation with the Department of Employment, Education and Training, including joint interviews for all recipients after 6 months.

Other services of the Department of Social Security and the Department of Community Services and Health

The Department of Social Security provides a professional social work service and Migrant and Aboriginal Liaison Office schemes. The Department also provides funding to the Social Welfare Research Centre at the University of New South Wales. The Department of Community Services and Health provides Grants-in-Aid (general support grants) towards the infrastructure costs of national non-government organisations which represent consumers and interest groups in the community services sector. Grants totalling $1.376 million in 1988–89 were paid to organisations including the: Australian Council of Social Services, Australian Council on the Ageing, Australian Council for Rehabilitation of Disabled, Australian Early Childhood Association and Disabled People International (Australia).

Commonwealth Government Assistance Through Welfare Organisations

Supported Accommodation Assistance Program—SAAP

SAAP was introduced in all States and Territories from 1 January 1985 and brought together former programs such as the *Women's Emergency Services Program*, the *Youth Services Scheme* and the *Homeless Persons' Assistance Program*. SAAP provides recurrent funds for a range of supported accommodation and related support services and is jointly Commonwealth and State funded. SAAP provides financial assistance for the funding of non-government organisations and local government to provide crisis accommodation and support services for homeless persons.

A comprehensive review of the Program was conducted in 1987 by an independent consultant, Ms Colleen Chesterman, and her report 'Homes Away from Home', was presented to Commonwealth and State Ministers in January 1988. This review was required under the provisions of the Agreement which expired on 30 June 1989. In developing the funding arrangements to apply from 1 July 1989, the Commonwealth Government took account of the review report, community consultations and consultations between Commonwealth and State officials.

The *Supported Accommodation Assistance Act 1989* provides the legislative base for the Program, which is administered on a day-to-day basis by State/Territory governments in accordance with the SAAP Agreement. Capital funding for SAAP services is provided within the *Crisis Accommodation Program* (CAP) which comes under the provisions of the Commonwealth/State Housing Agreement. Unlike SAAP, CAP is totally Commonwealth funded.

The objectives of the new program are to provide transitional support accommodation and related support services for people who are homeless and/or in crisis to help them move towards independent living, where appropriate, or other alternatives (such as long term supported housing), as soon as possible.

The replacement program which commenced on 1 July 1989 focuses on five target groups: young people, women with or without children who are escaping domestic violence, families, single men and single women.

Other features of the new program include the importance placed on community consultation in the planning and development of priorities for each State, the focus on user rights and the focus on client outcomes.

The SAAP allocation for 1989–90 is $125.6 million (of which the Commonwealth will contribute $75.2 million). This represents a significant increase over 1988–89 expenditure of $105 million. In addition, growth funds of $5 million (to be matched dollar for dollar by the States) have been committed by the Commonwealth up to 1991–92. This will involve an injection of some $40 million over this period. Maintenance of funding levels in real terms is also provided for on an annual basis through indexation.

Homeless Youth—A Commonwealth Priority for 1989–90

The Commonwealth has identified youth as a priority target for 1989–90. This is specifically in response to the problems identified in the report of the Human Rights Commission, 'Our Homeless Children'. The new initiatives to assist homeless young people include:

- a further $17 million to be made available over 4 years under SAAP ($34 million when matched by States) to underpin the expansion of accommodation services and to link homeless young people with other services; and
- an extra $10 million capital funding in 1989–90 which, together with funding under the CSHA, will double the medium and long term accommodation capacity.

Home and Community Care Program—HACC

HACC, jointly funded by the Commonwealth Government and the State and Territory Governments, is a program which was established during 1985–86. HACC funds organisations and community groups which provide home and community support services for the frail aged and people with disabilities to enable them to remain living at home. Support is also provided to the carers of these people. The Program aims to enhance the independence, security and quality of life of frail aged and younger disabled people by avoiding their inappropriate admission to long-term residential accommodation by facilitating and promoting the development of cost-effective community care alternatives appropriate and according to need.

Services funded under the Program provide basic maintenance and support, either in the home or in the community. These can include home help and personal care; home maintenance and modification; food services; community respite care; transport services; community paramedical services; community nursing; assessment and referral; education and training for service providers and users; information and coordination.

In addition to the matched program funds, the Commonwealth has made available $71 million over 4 years commencing 1987–88 to fund projects which test new approaches to providing services. Packages of home care services are put together for individuals which are appropriate to their particular needs. Seventy-two projects were approved as at September 1989, covering all States and Territories. These projects will be closely monitored to evaluate the effectiveness of the various coordinating arrangements and to assess the economics of community care. Discussions on further projects are proceeding.

Under the terms of the HACC Agreements a review of the Program is required at least every third year. The first review was completed in December 1988. In March 1989 HACC Ministers endorsed the review's recommendations which involve a challenging reform agenda. Ministers assigned a high priority to the implementation of a user rights strategy by 1990. Other recommendations related to service standards, client assessment, training, planning, and consultation. The review's recommendations will be implemented progressively.

Late in 1989 a second edition of the National Guidelines for the Program were published. The Guidelines are designed to provide interested groups with a broad understanding of the Program, including its aims, scope, funding processes and requirements. The revised Guidelines were required in order to reflect the outcomes of the review.

During 1988–89 the House of Representatives Standing Committee on Finance and Public Administration conducted an inquiry into the findings of the Auditor-General's Efficiency

Audit of the HACC Program which took place during 1987–88. Officers of the Commonwealth Department of Community Services and Health appeared twice before the Committee and submissions were received and evidence heard from State and local governments and community based service providers. The Committee is expected to report to Parliament during 1989–90.

COMMONWEALTH EXPENDITURE ON HOME AND COMMUNITY CARE PROGRAM
($'000)

	1987–88	*1988–89*
Matched payments to States, NT, and ACT	167,289	195,515
Unmatched funds provided	1,886	9,259
Planning and development	219	317
Total expenditure	**169,394**	**205,091**

Programs for Families with Children

The main objective of the *Children's Services Program* (CSP) is to support workforce participation by giving families with dependent children (especially low income families and sole parents) access to a range of quality child care services which are affordable and efficiently managed. The needs of parents at home are also recognised and there are projects which specifically help disabled, Aboriginal and non-English speaking families.

The CSP provides funds to enable local government and non-profit organisations to provide quality, affordable child care services which meet the needs of families with children regardless of cultural background, disability or location.

Priority has been given to increasing the number of child care places in child care centres, family day care schemes, occasional care centres and outside school hours care services. Emphasis is also given to providing fee relief for lower income families to help them pay for child care.

The number of places funded by the Commonwealth will continue to grow rapidly. There will be a further 30,000 places established between 1989–90 and 1991–92, bringing the total to some 144,000 places funded by the Commonwealth. The expansion will be cost shared with State Governments for both capital and recurrent funding.

EXPENDITURE ON CHILDREN'S SERVICES PROGRAM
($'000) (a)

1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
64,954	80,125	122,726	150,072	181,245	224,945	213,327

(*a*) Excluding Pre-school block grants (ceased 31/12/1985). Including Family Support Services Scheme and Family Support Program (transferred to States through general revenue grants, 1/7/1988).

Emergency Relief Grants

The *Emergency Relief Program* provides emergency financial assistance to persons in crisis. Through the Program, grants are made to over 700 agencies. These agencies distribute funds, usually in the form of cash assistance, purchase vouchers, or payments on behalf of clients to persons in crisis. The Commonwealth administers the Program which supplements the significant activities of both State Governments and community organisations in the provision of this type of assistance.

The Program aims to assist the most needy in the community including low income families and single parents. Agencies are selected keeping in mind the need to ensure equitable geographic access and access by Aboriginal people and people from a non-English speaking background to this form of assistance.

COMMONWEALTH EMERGENCY RELIEF APPROPRIATIONS
($'000)

Financial year	*Appropriation*
1983–84	5,000
1984–85	5,950
1985–86	6,000
1986–87	6,320
1987–88	6,720
1988–89	7,040
1989–90	7,195

People with disabilities

Under Part II of the *Disability Services Act 1986*, the Commonwealth provides grants to States and eligible organisations (non-profit and local government bodies and tertiary institutions) towards the recurrent and capital costs of a range of eligible services. These services include accommodation support, advocacy, competitive employment training and placement, independent living training, information, print disability services, recreation, respite care, and supported employment.

For services to be eligible for funding they must cater predominantly for persons with a disability, whose disability results in their having a substantially reduced capacity for communication, learning or mobility. The disability must be attributable to an intellectual, psychiatric, sensory or physical impairment or a combination of such impairments, and be permanent or likely to be permanent.

The Disability Services Act requires organisations to report regularly on the extent to which they have achieved positive consumer outcomes for their clients. In addition, formal reviews of their services are scheduled every five years.

The funding for eligible services in 1988–89 amounted to $173.4 million. An estimated 35,000 people with disabilities receive services from funded organisations.

The Department of Community Services and Health administers the Commonwealth Rehabilitation Service (CRS) which provides social and vocational rehabilitation services for working age people with disabilities. The major criterion for acceptance into a rehabilitation program is the expectation of significant gain towards independent living or vocational goals.

Services are provided from and arranged through a national network of some 90 regional rehabilitation units. Programs may include:

- employment, vocational, mobility and other independent living training and education courses;
- diagnostic and assessment services, occupational therapy, physiotherapy, speech therapy and counselling services;
- aids and appliances and home, vehicle and workplace modifications;
- associated accommodation and training allowances.

In 1988–89, 15,268 people received rehabilitation assistance from the CRS. Expenditure on rehabilitation services in 1988–89 was $57.5 million. The number of clients participating in rehabilitation programs in 1988–89 represented an increase of 2,800 over the previous year's activity.

The major directions in the Commonwealth program to assist people with disabilities include:

- the development of a more coordinated approach between the Commonwealth and the States/Territories in the provision of services for people with a disability; and
- the transition of services to provide clients with greater opportunities for independence, economic and employment opportunities and integration into the general community.

Residential care for aged people

The aim of the Commonwealth Government's aged residential care program is to ensure that frail aged people who are assessed as being unable to live at home have access to residential support and care services appropriate to their needs. Support is provided by the Commonwealth for two main types of residential care and assistance—nursing homes and hostels. Nursing homes provide services for people who need continuous professional nursing and personal care, while hostels provide a wide range of accommodation and personal care services for less dependent aged people.

Two key objectives of the aged residential care program are to provide a range of accommodation and care services to meet the assessed needs of aged people, and to promote the quality of life for residents receiving such care.

COMMONWEALTH EXPENDITURE ON NURSING HOMES AND HOSTELS 1988–89
($'000)

	NSW	*Vic.*	*Qld*	*WA*	*SA*	*Tas.*	*ACT*	*NT*	*Aust.*
Nursing homes for aged (recurrent)	495,311	334,414	181,435	95,700	138,694	33,566	7,065	3,540	1,289,730
Hostels (recurrent)	36,867	28,510	23,890	11,075	15,874	2,775	1,058	198	120,251
Nursing homes and hostels (capital)	26,086	12,582	28,068	2,899	6,542	2,451	4,104	1,686	84,422

APPROVED NURSING HOMES AND HOSTELS AND BEDS 1988–89

	NSW	*Vic.*	*Qld*	*WA*	*SA*	*Tas.*	*ACT*	*NT*	*Aust.*
Approved nursing homes and beds for aged—									
Nursing homes	494	408	200	162	113	48	4	5	1,434
Beds	28,569	16,158	11,889	7,181	6,197	2,119	441	162	72,716
Approved hostels and beds—									
Hostels	304	237	173	114	125	25	7	3	988
Beds	14,354	10,019	8,276	3,992	5,252	824	376	73	43,166

Planning mechanisms

The focus of the Government's long term strategy is a commitment to the provision of 100 residential care places per 1,000 persons aged over 70 years in each State. This will be composed of approximately 60 hostel and 40 nursing home beds, a target to be achieved over the next twenty years. To correct existing imbalances, it is intended that only 10 per cent of new beds approved will be allocated to the nursing home sector, with the remainder going to hostels. This planning mechanism provides for the allocation of nursing home and hostel places according to the needs of aged people. To complement the planning procedure, improved arrangements have been established to control admissions to nursing homes, in order to ensure that only people for whom nursing home care is the most appropriate option are admitted.

Assessment services

The Government recognized the need for a more complete and effective assessment of the care needs of frail elderly people. Policies were implemented to ensure that aged people receive appropriate advice and assistance when choosing services. In order to satisfy these requirements, funding was provided for the development of assessment services to assess the medical, psychological and social needs of aged people. A national network of assessment services is under development in cooperation with State and Territory Governments. At 30 June 1989, the Commonwealth was supporting 79 services based at community centres and hospitals around the country. It is estimated that by 30 June 1990, approximately 84 per cent of the aged population will have access to assessment services.

The assessment services assess people in their own homes, in hospitals or in extended care facilities. The aim of the assessment is to help aged people select the type of care which best meets their needs. Ultimately, the teams will assume full responsibility both for assessing all people seeking nursing home admission and for determining eligibility for hostel subsidy.

Quality of life and quality of care

The Commonwealth has a responsibility to oversee the physical environment of nursing homes and hostels. This responsibility is supported by regular inspection facilities. However, as a reflection of the concern for the needs of individuals within residential facilities, there has been a significant shift in focus toward the outcomes of care. Thus, greater emphasis is now given to the quality of care and quality of life experienced by residents.

In the past, regulations and legislation primarily addressed inputs to care and the physical environment of nursing homes, rather than the outcomes of service delivery. However, on 1 June 1987, the Commonwealth adopted new outcome standards for nursing homes. These standards, which were developed in 1986–87 by the Commonwealth, State and Territory governments working in consultation with people and groups involved in the nursing home industry, describe the care and lifestyle objectives nursing homes are required to meet. The intent of the standards is to encourage and enable residents to perform activities, maintain responsibilities and receive support according to their individual needs and capacities. Monitoring arrangements have also been established to ensure compliance with the outcome standards.

Standards Monitoring Teams have been established in each State to assess the quality of life and care provided to residents in nursing homes. Nationally, in 1988–89, 1,258 nursing homes were visited. Teams talk to residents, visitors and nursing home staff to learn how the nursing home meets the wishes and needs of its residents. To achieve the principal objective of ensuring satisfactory resident care, the monitoring teams adopt a constructive and educative approach when negotiating appropriate remedial action with nursing homes who fail to meet all the standards.

New outcome standards for hostels are currently under development, in consultation with the industry and relevant State and Territory authorities. A draft hostel standards document, entitled *Keeping the Quality in Hostel Life*, has been prepared.

In order to further safeguard the civil and human rights of nursing home residents, the Commonwealth Government is also moving toward the formalisation of the rights and responsibilities of residents and proprietors. The first major proposed changes are the development of a charter of residents' rights and responsibilities, and a contract between hostel and nursing home residents and proprietors. The backbone of the Commonwealth's User Rights initiative is the report entitled *Residents Rights in Nursing Homes and Hostels*, prepared by Ms Chris Ronalds, a consultant who was employed to examine this issue on behalf of the Commonwealth.

Equity of access to residential care

A key element of the needs-based planning mechanism noted above is to ensure equity of access to residential care for special needs groups in all geographic areas. In particular, steps have being taken to improve access by ethnic and Aboriginal communities. In addition, the Commonwealth utilises fee controls in nursing homes and enhanced capital grant payments to hostels to ensure that financial disadvantage does not restrict entry to supported accommodation.

Uniform national recurrent funding for nursing homes

The first stage of the new nursing home funding arrangements took effect on 1 July 1987. The new arrangements are being phased in gradually and will cover all residents of non-government nursing homes by 1 July 1991. The funding arrangements comprise two modules:

- a Standard Aggregated Module (SAM) to be phased in over the period 1 July 1987 to 30 June 1991, comprising an infrastructure component to cover all fixed and operating costs, including return on investment; and
- a nursing and personal care module, known as the Care Aggregated Module (CAM) introduced on 1 July 1988, to cover the costs of nursing and personal care.

These restructured funding arrangements complement the quality of life and quality of care standards. In effect, the new arrangements provide for a specified level of service for residents at a pre-determined price. The added emphasis being given to outcomes rather than inputs allows service providers far more flexibility in the deployment of resources, as well as greater incentive to increase efficiency.

Hostel funding

To facilitate the equitable redistribution of resources to alternative, less institutionalised forms of residential care, hostel resources have been substantially enhanced, through capital and recurrent funding.

The Commonwealth Government has committed substantial resources to the expansion of hostel services as an integral part of its residential aged care program. Since 1986, the Government has raised the level of subsidy available for residents of approved age care hostels. In particular, the Personal Care Subsidy (which currently stands at $17.25 per day) has increased by 121 per cent since 1986.

Major adjustments have also been made to the planning and funding mechanisms for hostels. Unnecessary restrictions on organisations' access to funds have been removed, and they have also been allowed greater flexibility to raise funds themselves via borrowings and entry contributions from people with the capacity to contribute to the cost of their own accommodation.

Increasing the capacity of organisations to raise funds has allowed the Commonwealth to target capital subsidies to financially disadvantaged people and other disadvantaged groups more comprehensively. For example, significantly increased subsidies have been made available to provide accommodation for financially disadvantaged members of the community. Indeed, the Commonwealth now pays a capital grant of up to $46,400 for each hostel place which is required to accommodate a financially disadvantaged person.

The subsidy for general places varies depending on the proportion of financially disadvantaged people being accommodated in each hostel—the higher the percentage of financially disadvantaged residents, the higher the general place rate subsidy. This approach acknowledges that the greater the proportion of financially disadvantaged residents in a specific hostel population, the lower the number of people able to make an adequate entry contribution.

Assistance for home-based care

While the residential care program focuses mainly on long-term residential care, there are provisions under the program for assistance to those aged and disabled people who wish to stay in the community. Short-term or respite care is available for these people. This not only allows carers of such people a break from their responsibilities, but also provides support for frail aged people who are caring for themselves.

In addition, Domiciliary Nursing Care Benefit is available to assist people who choose to care, in their own homes, for chronically ill or infirm relatives. Typically, these people are incapable of caring for themselves or being left unsupervised for any significant period, and would require admission to a nursing home if home-care were not available. The basic criteria for the payment of the benefit are that the person must be aged 16 or over and be in receipt of continuing care under the supervision of a registered nurse. The benefit is payable at the rate of $42 per fortnight.

Rights of aged people using services

Two major initiatives agreed by the Government during 1989 were a program to establish and protect the consumer and human rights of the frail elderly and the development of multi-purpose centres to bring services to rural and remote areas.

The Government endorsed the broad thrust of the report *Residents' Rights in Nursing Homes and Hostels.*

The program of initiatives, staged over four years, aims to implement fundamental reforms which are necessary to ensure that the legal, human and consumer rights of aged people are protected.

The key initiatives include:

- protection of the legal rights of residents through the development of a Charter of Rights and Responsibilities and a care contract between residents and service providers;
- the establishment in each State Office of the Department of Community Services and Health of a unit to receive and follow up complaints from residents or their representatives;
- independent advocacy and mediation services in each State and Territory to take up grievance issues on behalf of residents;
- a Community Visitors Scheme to enable residents to have greater access to their local community and to provide residents with information, support and advice. This will be particularly valuable to those aged people who have no family or friends in the area able and willing to provide them with support. Under this Scheme, a visitor will be appointed from the local community and assigned to a nursing home or hostel, which he or she will visit once a month; and
- a comprehensive information strategy to enhance the awareness of residents, potential residents and the community generally of care options and important issues to be considered in choosing the right type of care.

Aged Consumer Forums will be established in all States and Territories and there will also be a National Aged Consumer Forum. The purpose of the State Forums will be to advise the Minister on matters of concern to consumers including carers and to provide a view on whether existing Departmental strategies relating to aged consumers are appropriate, effective and sufficient.

The *National Aged Consumer Forum* will take a national perspective on matters of concern to aged consumers and will also provide feedback on the views of older people.

The program of residents' rights initiatives will be implemented gradually. Close consultation with providers, consumers and professional organisations and State Governments will take place on details of implementation of all initiatives.

Multi-purpose centres

The Government recognises that people living in many small communities in rural or remote areas do not have access locally to a range of services because the size of these communities will not sustain the viable operation of separate services. In line with its commitment to provide accessible health services to all Australians, the Government will develop and fund a number of multi-purpose centres to be located in under-serviced rural areas.

These centres will provide many health and welfare services such as acute hospital care, residential aged care, disability and home and community care services. The co-location of services will enable the cost-effective use of staffing and infrastructure resources for the hospital and residential services.

Project officers of the Department of Community Services and Health will work with local community groups and State Governments to develop proposals bringing together small ventures of two or more types of service to reduce the overhead costs for each service.

Aboriginal and Torres Strait Islander People

A referendum in May 1967 led to the repeal of section 127 of the Constitution enabling Aboriginal and Torres Strait Islander people to be counted in the census. The Constitution was also amended to give the Commonwealth Government concurrent legislative powers with the State governments in relation to Aboriginals.

The Commonwealth Government's aim is to help Aboriginals become self-managing and self-sufficient while at the same time, preserving and developing their own distinctive cultures.

The Commonwealth Government has used four key federal bodies to work towards achieving these aims, namely the Department of Aboriginal Affairs, the Aboriginal Development Commission, Aboriginal Hostels Limited and the Australian Institute of Aboriginal Studies.

The Department of Aboriginal Affairs, established in 1973, is responsible for policy planning and coordinating Aboriginal and Torres Strait Islander affairs at the national level. The Department has regional offices in all States and the Northern Territory.

The Aboriginal Development Commission (ADC), was established in 1980 by the Commonwealth Government to assist Aboriginal and Torres Strait Islander groups, communities and individuals to acquire land for a variety of purposes, engage in business enterprises, obtain finance for housing and other personal needs, and receive training where necessary.

Aboriginal Hostels Limited, established in 1973 as a company owned and funded by the Federal Government, provides temporary hostel accommodation for Aboriginal and Islander people across Australia.

The Australian Institute of Aboriginal Studies was established by legislation in 1964 to promote Australian Aboriginal and Torres Strait Islander studies in the arts, education, languages, health, history, archaeology, sociology and anthropology.

Aboriginal views on the long term goals and objectives which the Government should pursue, the programs it should adopt, and on the need for new programs in Aboriginal affairs have in recent years been sought through various Aboriginal advisory organisations such as the National Aboriginal Consultative Council (NACC, 1973–77) and the National Aboriginal Conference (NAC, 1977–1985).

In December 1987 the Government announced a major restructuring of its federal Aboriginal organisations.

Following extensive consultation with Aboriginal people the Government proposes to establish an Aboriginal and Torres Strait Islander Commission (ATSIC) to take over the role and functions of the Department of Aboriginal Affairs, the Aboriginal Development Commission, Aboriginal Hostels Limited and the Australian Institute of Aboriginal Studies will maintain their independence.

The new Commission will, for the first time, formally combine the consultative functions with the administrative functions presently undertaken by the Department of Aboriginal Affairs and the Aboriginal Development Commission.

Migrants

Intake

The number of migrants who have come to Australia since the end of World War II has passed the 4.7 million mark. These migrants have contributed significantly to Australia's population which has more than doubled, from 7.4 million at the end of 1945 to over 16.7 million at the end of 1988. At this time about 22 per cent of Australia's population was born overseas. Post-war immigration peaked in 1970 with 185,300 settler arrivals, and declined thereafter to a low of 54,100 in 1975. In 1988 settler arrivals numbered 151,600.

Settlement services for migrants and refugees

The Department of Immigration, Local Government and Ethnic Affairs (DILGEA) provides services to facilitate the successful settlement of migrants and refugees and their integration into Australian society. Its responsibilities therefore interface with the broader responsibilities of the Advisory Council on Multicultural Affairs and with the Office of Multicultural Affairs (OMA) located within the Department of the Prime Minister and Cabinet.

As part of the Government's response to the report of the Committee to Advise on Australia's Immigration Policies (CAAIP) in December 1988, DILGEA is to concentrate its settlement programs on realising the full social and economic benefits of migration by assisting migrants to achieve early and effective participation in the social and economic life of Australia.

Accordingly, DILGEA is refocussing its settlement activities and targeting its programs to priority needs of the annual intake. DILGEA's strategic role in settlement emphasises planning and advocacy and phasing out duplication with other agencies on the basis of their access and equity commitments.

A network of migrant centres and self-contained units provides on-arrival accommodation and settlement services for needy migrants (essentially refugees). There are migrant centres and self-contained units in both Sydney and Melbourne and self-contained accommodation in Brisbane, Adelaide and Perth. This network can provide accommodation for around 1,500 persons at any time.

DILGEA's settlement staff in all States and Territories provide support to groups of migrants as they settle into the community and referral services for individuals requiring specific assistance. DILGEA regional offices are located close to major areas of migrant settlement, thus facilitating local settlement planning initiatives and access to settlement services. DILGEA staff are also working to assist mainstream agencies in making their services more accessible to migrants.

Departmental activities are complemented by those of social workers and welfare officers employed by voluntary agencies funded by Commonwealth grants. In many respects these voluntary agencies are best placed to assist migrants. The number of Grants-in-Aid for the employment of welfare workers by voluntary agencies as at 30 June 1989 was 216. The Settlement Planning Branch also administers the Migrant Access Projects Scheme (MAPS) which provides grants of up to $50,000 per annum for projects which range in scale from those which provide infrastructure support (e.g. personal computers) to others which aim to improve the design, planning and coordination of services with migrants' needs in mind.

As part of its settlement services, DILGEA provides an interpreting and translation service to non-English-speaking migrants and refugees, and to members of the host community having dealings with them. The Department also offers a translation service to Commonwealth departments and other bodies. In some cases, a fee may be charged for these services. At the present time, translation units are operating in Canberra, Melbourne and Sydney and a translation service is offered by Telephone Interpreter Service (TIS) centres in other capitals.

In 1973 TIS was established to help overcome language related communication problems by providing, via the telephone, a 24 hour interpreting, information and referral service. TIS interpreters, together with community contract interpreters, cover over 100 languages. Where necessary, and especially in emergency situations, arrangements may be made for the personal attendance of an interpreter. TIS currently operates through staffed centres in all State and Territory capitals and via a 008 link to these centres from the rest of Australia. During the year ended 30 June 1989, a total of 366,013 calls was received by TIS.

Cost sharing agreements to encourage the establishment or extension of State interpreting and translation services in areas of prime State responsibility have been concluded with New South Wales, Victoria, Queensland, South Australia and the Northern Territory. The Commonwealth had contributed $6.4 million under the cost-sharing program since its inception in 1979 to 30 June 1989. The program is currently being reviewed with the States and the Northern Territory.

A National Accreditation Authority for Translators and Interpreters (NAATI) was established in 1977 to develop standards of competence for those professions in Australia and to test and accredit interpreting–translating practitioners and courses. In October 1984, NAATI became an independent incorporated body. Currently, NAATI is in the fourth year of a five year program of accelerated expansion and development. NAATI is strongly supported and funded jointly by the Commonwealth, State and Territory governments.

Twenty-four migrant resource centres, six smaller centres and one cooperative venture with the New South Wales Government have been established in areas of high migrant density. These centres provide support for all agencies (both government and voluntary) which assist migrants, and also provide a focus for community participation and development of local resources to meet migrant needs.

The settlement of refugees is an important element in the Commonwealth Government's overall migrant settlement program. In addition to offering refugees on-arrival accommodation and settlement services, the Commonwealth also places an increasing number of migrants directly into the community where they are in the care of families and other groups which have undertaken to provide support and assistance under the Community Refugee Settlement Scheme. This Scheme aims to settle 4,200 refugees in 1989–90.

The Adult Migrant Education Program (AMEP) provides a wide range of language learning opportunities, and offers information about Australia. DILGEA is responsible for the funding and coordination of the program at the national level, while service delivery is provided in the main by Adult Migrant Education Services and some tertiary institutions in each State and Territory. In 1988–89, expenditure on AMEP was $62 million. Provisional data show that 70,500 participants undertook one or more AMEP courses in 1988–89.

The status of 'Australian Citizen' was created under the *Nationality and Citizenship Act 1948* which came into force on 26 January 1949. The relevant Act is now the *Australian Citizenship Act 1948* and under its provisions all new settlers, regardless of origin, are required to satisfy uniform requirements for the grant of citizenship. In the financial year 1988–89, 114,977 applications for Australian citizenship were received compared with

74,686 in 1987–88 and 69,624 in the 1986–87 financial year. Almost two million new settlers have been granted Australian citizenship since 1949.

Veterans' Affairs

The Repatriation Commission was established under the *Repatriation Act 1920*. With the repeal of that Act on 22 May 1986, the Commission has continued in existence under the *Veterans' Entitlements Act 1986*. At present, the Commission consists of three full-time members. The functions of the Commission are set out in section 180 of the Veterans' Entitlements Act and include:

- granting pensions, allowances and other benefits in accordance with the provisions of the Act;
- establishing, operating and maintaining hospitals and other institutions for the treatment of eligible persons;
- arranging the provision of treatment and other services for eligible persons;
- advising the Minister and providing him with information on matters relating to the Act;
- performing other functions conferred on the Commission by the Act or other Acts;
- administering the Act subject to the control of the Minister.

The Department of Veterans' Affairs provides the administrative machinery through which the Commission operates. The central office of the Department is in Canberra. There is a branch office in the capital city of each State which is under the control of the Deputy Commissioner. Regional offices are located in Newcastle, Wollongong, Canberra, Ballarat, Townsville and Darwin.

The principal functions of the Repatriation Commission cover:

- payment of disability and dependants' pensions, service pensions and allowances to eligible veterans and their dependants;
- provision of housing related benefits;
- provision of medical treatment for veterans for injuries and illnesses accepted as service-related;
- provision of medical treatment in certain circumstances for veterans who are suffering from injuries and illnesses whether service-related or not;
- provision of medical treatment for war/defence widows and certain dependants of deceased veterans;
- commemoration of eligible Australian veterans whose post-war deaths are related to their war service; and
- provision of a wide range of other benefits for eligible persons.

Repatriation benefits are provided under the Veterans' Entitlements Act in respect of service with the Australian Defence Forces in World War I, World War II, Korea and Malayan operations, Australian contingent of the British Commonwealth Far East Strategic Reserve, Vietnam and South East Asia conflict and for service in the Regular Defence Forces on or after 7 December 1972. Certain civilians may also be eligible for benefits, as are Australian members of certain designated peacekeeping, observing and monitoring forces who had peacekeeping service overseas. Under the *Papua New Guinea (Members of the Forces Benefits) Act 1957*, indigenous inhabitants of Papua New Guinea who served in the Australian Forces in World War II and members of the Royal Papuan Constabulary and New Guinea Police Force who served in that conflict are eligible for compensatory type benefits. Australian mariners of World War II are eligible for compensation benefits under the *Seamen's War Pensions and Allowances Act 1940* and for income support benefits (service pension) subject to the conditions laid down in the Veterans' Entitlements Act. Members of other Commonwealth countries' forces and other allied veterans are not eligible for compensatory-type benefits in respect of their service, unless they were domiciled in Australia immediately before their enlistment. They may, however, qualify for income support payments such as the service pension.

The Annual Report of the Repatriation Commission provides more detailed information on Repatriation allowances, benefits and services.

VETERANS' AFFAIRS (excl. DSHC): TOTAL EXPENDITURE
($'000)

Class	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Pensions, allowances and other benefits	2,035,026	2,334,799	2,587,404	2,766,858	3,111,508	3,180,025
Medical treatment	561,035	612,238	681,172	778,111	511,986	526,932
Administration	84,848	116,934	111,805	107,330	135,588	144,072
Works and maintenance	43,021	46,687	49,728	66,425	56,861	70,659
Total expenditure	**2,723,930**	**3,110,658**	**3,430,109**	**3,718,724**	**3,815,943**	**3,921,688**

NOTE: Expenditure figures exclude all operating expenses for the Repatriation General Hospitals, and all expenditure associated with the Defence Services Homes Corporation, the Australian War Memorial and Office of Australia War Graves. Total expenditure by the Veterans' Affairs Portfolio in 1988–89 was $4,488,224,941

STAFF EMPLOYED–FULL TIME EQUIVALENT STAFF AS AT 30 JUNE 1989

1988–89 ASL.	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*C.O.*	*Total*
Benefits	481	322	272	112	131	65	120	1,503
Health	244	289	148	89	74	33	112	989
Office of Australian War Graves	7	11	9	6	5	2	14	54
Corporate Services	252	202	104	73	67	50	333	1,081
Repatriation General Hospitals	2,704	1,934	1,500	1,010	1,092	314	—	8,554
Auxiliary Hospitals	308	165	102	—	—	—	—	575
Total	**3,996**	**2,923**	**2,135**	**1,290**	**1,369**	**464**	**579**	**12,756**

Note: Figures do not include the Australian War Memorial or Defence Service Homes.

Benefits program

The principal objective of the Benefits Program is to compensate veterans and their dependants for the effects of war or defence service. Benefits such as pensions and allowances are administered under two sub-programs, the Compensation Sub-program and the Income Support Sub-program, and housing related benefits under the Housing Assistance Sub-program (see Housing and Construction chapter in this Year Book).

Compensation Sub-program

The main benefits provided under this sub-program are the disability pension and the war/defence widow's pension.

The disability pension is a compensatory payment for incapacity due to eligible war, defence or peacekeeping service. It is paid at a general rate between 10 per cent and 100 per cent, depending on the degree of war- or defence-caused incapacity. Higher rates of pension (intermediate rate and special rate) are payable for those incapacitated to 70 per cent of the general rate where the war- or defence-caused incapacity alone affects their capacity for work. The intermediate rate is payable where the person is unable to work more than 20 hours a week and the special rate is payable where the person is unable to work more than eight hours a week.

As from 22 December 1988, the Government introduced an Extreme Disablement Adjustment, equal to 150 per cent of the general rate. This is payable to severely disabled veterans who are 65 years of age or over.

The war/defence widow's pension is payable to the widow of a veteran:

- whose death has been accepted as war- or defence-caused;
- who was receiving or entitled to receive a special rate disability pension at the time of his death.

Orphan's pension is payable to the children of these veterans.

The following tables provide an analysis of the number of pensions in force, and veteran's class of pension.

DISABILITY PENSIONS FOR INCAPACITATED VETERANS: NUMBER IN FORCE, BY CLASS OF PENSION: 30 JUNE 1989

Class	*1914–18 War*	*1939–45 War (a)*	*Korea, Malaya and FESR*	*Special Overseas Service*	*Peace-time forces*	*Miscel-laneous*	*Total*
Special Rate (T & PI or equivalent)	189	19,370	650	678	345	12	21,244
Intermediate Rate	3	808	21	36	29	3	900
Extreme Disablement Adjustment	4	347	1	—	—	—	353
General Rate—from 10 per cent to 100 per cent assessed disability	732	116,787	3,768	8,460	11,325	91	141,163
Total	**928**	**137,312**	**4,440**	**9,174**	**11,699**	**107**	**163,660**

(a) Includes Interim Forces.

DISABILITY PENSIONS: NUMBER IN FORCE

Class	*30 June 1988*	*30 June 1989*	*Variation per cent*
Veterans	166,830	163,660	–1.9
Wives and wife widows	112,532	108,755	–3.4
Children	12,933	11,223	–13.2
War widows	73,255	74,743	+2.0
Orphans	797	717	–10.0
Other dependants	1,333	1,247	–6.5
Total	**367,680**	**360,345**	**–2.0**

The following table shows the number of pensions in force and the expenditure for disability pensions in each of the years ended 30 June 1982 to 1989.

DISABILITY PENSIONS

	Number of disability pensions in force at 30 June				
Year	*Incapacitated veterans*	*Dependants of incapacitated veterans*	*Dependants of deceased veterans*	*Total*	*Annual expenditure (a) ($'000)*
1982–83	168,355	186,859	55,259	410,473	646,470
1983–84	166,062	183,105	58,110	407,277	722,660
1984–85	165,377	179,420	63,524	408,321	837,230
1985–86	169,109	170,589	70,044	409,742	549,125
1986–87	169,257	132,971	72,884	375,112	548,901
1987–88	166,830	125,821	75,029	367,680	586,691
1988–89	163,660	120,325	76,360	360,345	594,035

(a) Includes associated allowances.

A number of specific need allowances are available to veterans for their war- or defence-caused incapacity. They include attendant allowance, specific disability (section 27) allowance, clothing allowance, recreation transport allowance, vehicle assistance scheme benefits, temporary incapacity allowance and loss of earnings allowance. Decoration allowance is also available. Various payments intended to assist with funeral and other bereavement expenses are also available.

SPECIFIC NEED ALLOWANCES

	No. of recipients—	
Benefit	*at 30 June 1988*	*at 30 June 1989*
Attendant allowance	977	964
Section 27 (items 1–6)	61	61
Section 27 (items 7–15)	1,244	1,230
Clothing allowance	2,486	2,398
Recreation transport allowance	3,160	3,171
Recreation allowance	1,314	1,317
Vehicle assistance scheme	74	51

The *Veterans' Children Education Scheme* provides assistance with education and training for the children of special rate disability pensioners and certain other incapacitated veterans and deceased veterans whose death has been accepted as war- or defence-caused or who were receiving special rate disability pension or a section 27 allowance (items 1–6) at the time of death.

VETERANS' CHILDREN EDUCATION SCHEME, EXPENDITURE
($'000)

Cost of education of beneficiaries	*NSW (a)*	*Vic.*	*Qld*	*SA (b)*	*WA*	*Tas.*	*Aust.*
1985–86	1,344.8	929.5	731.1	303.1	270.4	162.7	3,741.6
1986–87	1,674.0	1,093.0	951.4	324.1	367.0	221.3	4,630.8
1987–88	1,754.0	1,233.1	1,166.0	387.6	349.2	267.2	5,157.1
1988-89	1,568.9	1,017.6	1,061.4	333.8	359.3	259.2	4,600.4

(a) Includes ACT. *(b)* Includes NT.

VETERANS' CHILDREN EDUCATION SCHEME: NUMBER RECEIVING BENEFITS AT 30 JUNE 1989

Type of training	*NSW (a)*	*Vic.*	*Qld*	*SA (b)*	*WA*	*Tas.*	*Total*
At school—							
Primary *(c)*	120	105	117	40	77	38	497
Secondary	380	192	347	82	124	91	1,216
Total at school	*500*	*297*	*467*	*122*	*201*	*129*	*1,713*
Tertiary professional	144	111	84	46	36	22	443
Technical	29	42	15	—	13	3	102
Industrial	—	—	3	—	—	—	3
Total	**673**	**450**	**566**	**168**	**250**	**154**	**2,261**

(a) Includes ACT. *(b)* Includes NT. *(c)* Not in receipt of an education allowance.

Income-support sub-program

The main benefit paid under this sub-program is the service pension. This is an income and asset tested pension similar to the age and invalid pensions payable by the Department of Social Security. The pension is payable to veterans with qualifying service at age 60 (males) or 55 (females). Veterans with qualifying service may be paid the pension at any age if they are permanently incapacitated for work. Qualifying service generally means service in an area and at a time when danger from hostile enemy forces was incurred by the veteran.

Veterans of other Commonwealth and allied countries may also qualify for the service pension for service in wars or war-like conflicts in which Australia has engaged. Veterans of Commonwealth forces must have served outside the country of enlistment or be entitled to the award of a campaign medal for service within that country. Allied veterans must have served in formally raised forces. The veteran must be an Australian resident with at least ten years residency. Service pension is also available to Australians, other Commonwealth and allied mariners of World War II.

Service pensioners who satisfy a separate income and assets test may be eligible for 'fringe benefits', provided by the Commonwealth Government, which include medical and hospital treatment, pharmaceutical benefits and telephone rental concessions.

A funeral benefit is available to assist in defraying the cost of the funeral of a service pensioner eligible for fringe benefits. The benefit is also available in respect of the funeral for a veteran who died in needy circumstances or who was receiving a special rate disability pension at the time of death. It is also payable in respect of the funeral of a veteran whose death has been accepted as war- or defence-caused and, finally, for certain dependants of veterans.

The following table gives an analysis of the total number of pensions in force, as at 30 June 1989.

SERVICE PENSIONS: NUMBER IN FORCE, 30 JUNE 1989

Class	*1914–18 War*	*1939–45 War*	*Korea, Malaya and FESR*	*Special Overseas Service*	*British Common-wealth*	*Allied Forces*	*Miscel-laneous*	*Total*
Veterans—								
Old age	1,427	180,943	2,048	379	26,227	3,944	2,211	217,179
Permanently incapacitated	—	6,524	1,787	1,390	1,207	222	225	11,355
Tuberculosis *(a)*	4	540	10	1	8	—	—	563
Total	*1,431*	*188,007*	*3,845*	*1,770*	*27,442*	*4,166*	*2,436*	*229,097*
Wives and widows	868	136,518	2,555	1,224	21,125	3,291	1,761	167,342
Total	**2,299**	**324,525**	**6,400**	**2,994**	**48,567**	**7,457**	**4,197**	**396,439**

(a) Eligibility on these grounds ceased on 2 November 1978.

The following table provides a summary of Service Pensions in force.

SERVICE PENSIONS

	Pensions in force as at 30 June 1989			*Annual expenditure (a) ($'000)*
	Veterans	*Wives and widows*	*Total*	
1982–83	200,492	140,656	341,148	1,057,950
1983–84	218,660	156,845	375,505	1,294,279
1984–85	227,705	164,794	392,499	1,477,874
1985–86	233,751	169,801	403,552	1,616,987
1986–87	234,209	170,585	404,794	1,745,888
1987–88	232,711	170,153	402,864	2,011,205
1988–89	229,097	167,342	396,439	2,048,138

(a) Includes associated allowances.

Treatment for Veterans and Dependants of Veterans

Treatment is provided for all disabilities which have been accepted as service-related, and for pulmonary tuberculosis and cancer not related to service. In addition, and subject to certain conditions, treatment in Australia is provided for most non-service-related disabilities for: incapacitated veterans receiving disability pensions at or above the maximum (100 per cent) general rate; World War II veterans receiving both service pension at any rate and disability pension at the 50 per cent rate or higher; veterans or nurses who served in World War I; veterans of the Boer War; veterans who were detained by the enemy; war widows and certain other dependants of deceased male veterans whose deaths have been accepted as service related, and of deceased Special Rate pensioners; certain service pensioners; and returned servicewomen of World War II.

Special emphasis is given to caring for the aged, aimed at limiting the dependence of veterans and war widows on nursing home care and encouraging the alternative of home care.

Treatment is provided at six repatriation general hospitals (one in each State), three auxiliary hospitals and Anzac Hostel in Victoria.

Expenditure totalled $336.7 million in 1987–88 and $447.7 million in 1988–89. In addition, expenditure of $506.6 million in 1987–88 and $521.8 million in 1988–89 was incurred on medical services outside these institutions.

Repatriation hospitals and institutions

In addition to the repatriation institutions, entitled persons are treated in other country and metropolitan hospitals and nursing homes at departmental expense. During 1988–89, entitled persons were accommodated and treated in non-departmental hospitals for 568,412 bed-days and in nursing homes for 1,481,955 bed-days.

Repatriation psychiatric patients requiring custodial care for a service-related disability are, by agreement with the State governments, accommodated at the expense of the Department of Veterans' Affairs in separate wings of psychiatric hospitals administered by the State authorities. During 1988–89, repatriation patients were accommodated for 69,300 bed-days.

Out-patient treatment is provided throughout Australia at repatriation hospitals and clinics and through the Repatriation Local Medical Officer Scheme. During 1988–89, 932,464 out-patients were treated at repatriation institutions, and local medical officers consultations totalled 3,046,785. The number of repatriation local medical officers in Australia at 30 June 1989 was 15,500.

The following table gives details of in-patients treated at repatriation general hospitals and other repatriation institutions in each State (including community patients). The figures shown refer to treatment episodes, e.g. a person who is admitted to hospital twice during a year is counted twice.

REPATRIATION GENERAL HOSPITALS AND INSTITUTIONS: IN-PATIENTS TREATED 1988–89

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust.*
REPATRIATION GENERAL HOSPITALS							
Admissions during year	21,667	20,930	13,522	9,483	10,288	3,082	78,972
Discharges (including deaths)	21,751	20,958	13,364	9,459	10,264	3,083	78,879
Total in-patients treated	22,225	21,331	13,746	9,687	10,551	3,160	80,700
Daily average beds occupied	537	401	366	224	268	73	1,869
REPATRIATION AUXILIARY HOSPITALS AND ANZAC HOSTEL (VIC)							
Admissions during year	1,761	794	365	—	—	—	2,920
Discharges (including deaths)	1,760	798	365	—	—	—	2,923
Total in-patients treated	1,923	905	421	—	—	—	3,255
Daily average beds occupied	162	114	60	—	—	—	336

Other medical services

Entitled persons may also be provided with: medicines, drugs and dressings through the Repatriation Pharmaceutical Benefits Scheme; services of allied health professionals including physiotherapy and podiatry; optometrical services including spectacles; dental treatment through the Local Dental Officer Scheme; rehabilitation and social work services; counselling through the Vietnam Veterans Counselling Service; and surgical aids and aids-to-daily living.

Artificial limb and appliance services

The following table gives details of production by all centres and commercial firms as a result of orders placed by the Department.

REPATRIATION ARTIFICIAL LIMB AND APPLIANCE CENTRES AND COMMERCIAL FIRMS: PRODUCTION, 1988–89

(number)

CENTRES	
Legs	2,227
Arms	123
Surgical and adapted footwear	5,445
Other surgical appliances	1,098
Repairs	20,558
COMMERCIAL FIRMS	
Legs	2,419
Arms	181
Limb repairs	7,586

A wide range of artificial limbs and other surgical aids is supplied by the Repatriation Artificial Limb and Appliance Centre in each State capital and by sub–centres in Darwin, Townsville, Canberra, Newcastle and Albury. A mobile workshop operates in Victoria to provide services to remote locations. In addition, the Central Development Unit is located in Melbourne, and engages in research and development in the prosthetic and orthotic field.

Since 1973, artificial limbs have been provided free of charge to all members of the community who need them (except where patients are eligible for compensation), either through the Department's Repatriation Artificial Limb and Appliance Centres or on order through commercial limb-makers. The number of limbs supplied through the Department has increased significantly as the community has taken advantage of the Free-Limbs Scheme.

The cost of the Free Limb Scheme for 1988–89 was $4.3 million.

The Office of Australian War Graves

The Office of Australian War Graves has two main functions. Its major area of responsibility by sheer volume of work is the implementation of government policy for the perpetual commemoration of eligible Australian veterans whose post-war deaths are related to their war service. The authority for this program was established by a War Cabinet Decision on 10 March 1922 and re-confirmed in several subsequent decisions.

It also maintains on behalf of the Commonwealth War Graves Commission, War Cemeteries and other commemorations in Australia, Papua New Guinea, Solomon Islands (Guadalcanal) and Norfolk Island. This responsibility is covered by a formal agreement between Australia and the Commonwealth War Graves Commission which was signed on 1 January 1975. Under a separate arrangement with the Commonwealth War Graves Commission the Office of Australian War Graves also maintains the Ambon War Cemetery in Indonesia.

The *War Graves Act 1980*, dated 23 May, created the statutory position of Director of War Graves. The Director is responsible under the Secretary of the Department of Veterans' Affairs for administering all matters associated with the Office of Australian War Graves' commemorative functions.

The Office maintains 19,199 war graves in 70 War cemeteries and 900 civil cemeteries. It also maintains 160,000 post-war commemorations scattered throughout 1,500 civil cemeteries. In 1988–89 it commemorated 10,000 veterans who died of war-related causes.

The Office provides an information service to those wishing to visit any of the 75,000 Australian war dead buried in some 70 countries overseas.

It holds records relating to the Commonwealth dead of World War II and the Australian dead of World War I.

Full details of the operations of the Office of Australian War Graves are contained in its Annual Report.

Household Expenditure

Official Australian involvement in household expenditure surveys can be traced back to the beginning of this century. In 1910–11 a survey entitled *Inquiry into the Cost of Living in Australia*, was undertaken by the then Commonwealth Bureau of Census and Statistics (now the Australian Bureau of Statistics). During this survey, diaries were distributed to some 1,500 volunteers who were asked to keep records of all expenditures over the twelve month period from July 1910 to June 1911. Only 222 diaries were returned, which severely impaired the reliability of the results.

Because of the poor response to the 1910–11 inquiry, the Bureau conducted a further expenditure inquiry in 1913 which was intended to achieve a higher response rate by reducing the diary-keeping period to four weeks. However, the response was again small, with only six per cent of the 7,000 diaries returned.

The next major Household Expenditure Survey was not conducted until 1974. This Survey ran from July 1974 till June 1975. Further expenditure surveys were conducted in 1975–76, 1984 and 1988–89. After the 1974–75 survey, geographical coverage was extended beyond the six State capital cities and Canberra to include urban and rural areas in all States and Territories except remote and sparsely settled areas.

The 1988–89 Household Expenditure Survey was the fourth major survey of its kind undertaken by the Australian Bureau of Statistics. It was conducted continuously over the twelve month period July 1988 to June 1989. Household expenditure surveys are designed to find out how the expenditure patterns of private households vary according to income level and other characteristics such as household size, composition, location and principal source of income. Information gathered from household expenditure surveys is primarily for use in reviewing the weighting pattern of the Consumer Price Index (CPI) which is used universally as a measure of change in the cost of living.

Preliminary information from the 1988–89 Survey was released in September 1989.

Summary of findings from the 1984 Survey

In 1984, average weekly household expenditure on commodities and services in Australia was $361.84. Household expenditure varied considerably across the States and Territories with the highest weekly expenditure being recorded in the two Territories at $472.38 for households in the Australian Capital Territory and $463.46 in the Northern Territory. Households in Tasmania had the lowest average weekly expenditure at $311.90. These differences in household expenditure reflect to some extent the differences in average weekly household income across the States and Territories. Households in the Australian Capital Territory and the Northern Territory had the highest average weekly incomes at $627.97 and $583.96 respectively. Households in Tasmania had the lowest average weekly household income at $392.47. These differences in household income are in turn related to such characteristics as the proportion of household income derived from earnings or government cash benefits, the average number of employed persons per household and the average age of the household head.

At the national level, average weekly household expenditure (*see* figure below) on *food* and *non-alcoholic beverages* ($71.22 or 19.7 per cent of total expenditure on commodities and services), on *transport* ($59.00 or 16.3 per cent) and on *current housing costs (for selected dwellings)* ($46.46 or 12.8 per cent) accounts for 48.8 per cent of total expenditure. Much less significant is the expenditure on *personal care* ($6.60 or 1.8 per cent) and on tobacco ($5.73 or 1.6 per cent).

1984 HOUSEHOLD EXPENDITURE SURVEY: HOUSEHOLD EXPENDITURE BY STATES AND TERRITORIES

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
AVERAGE WEEKLY HOUSEHOLD EXPENDITURE ($) *(a)*									
Broad expenditure group									
Commodity or service									
Current housing costs (selected dwelling)	52.05	45.70	43.17	36.63	41.50	39.04	67.42	60.78	46.46
Fuel and power *(b)*	9.76	12.19	9.27	10.72	10.37	10.91	10.71	13.57	10.56
Food and non-alcoholic beverages	73.14	73.18	69.32	62.79	69.18	62.80	88.24	86.06	71.22
Alcoholic beverages	13.13	11.11	12.21	11.49	13.24	9.45	25.04	15.05	12.30
Tobacco	5.65	6.41	4.63	5.50	6.27	5.56	9.60	4.42	5.73
Clothing and footwear	26.26	24.21	18.80	20.66	20.72	23.18	17.85	29.54	23.46
Household furnishings and equipment	28.85	27.67	23.04	29.84	28.54	23.93	37.26	35.62	27.69
Household services and operation	16.20	15.86	14.92	14.30	15.74	13.16	22.89	20.07	15.70
Medical care and health expenses	14.07	15.40	13.17	13.64	12.72	11.40	15.33	15.92	14.07
Transport *(c)*	57.22	61.92	58.24	54.89	62.47	47.59	68.47	80.93	59.00
Recreation	42.34	45.89	40.48	36.47	46.50	41.01	60.83	59.78	43.13
Personal care	6.74	6.89	6.01	6.72	6.24	5.70	7.01	7.87	6.60
Miscellaneous commodities and services	27.91	23.89	27.33	20.52	26.52	18.17	32.82	42.76	25.93
Total commodities or service expenditure	**373.31**	**370.31**	**340.58**	**324.18**	**360.01**	**311.90**	**463.46**	**472.38**	**361.84**
Selected other payments									
Income tax	82.35	85.35	69.32	67.63	81.82	66.06	106.55	131.49	80.07
Mortgage payments—principal (selected dwelling)	6.81	6.43	6.43	5.26	7.09	4.82	5.06	7.95	6.49
Other capital housing costs *(d)*	24.15	16.70	10.75	9.36	21.44	6.78	*25.82	*24.84	18.01
Superannuation and life insurance	10.93	12.07	11.14	10.75	11.47	10.53	19.77	23.25	11.51
HOUSEHOLD CHARACTERISTICS									
Average weekly household income ($) *(e)*	458.43	472.22	424.07	417.13	452.87	392.47	583.96	627.97	453.60
Average number of persons per household (number)	2.82	2.83	2.93	2.73	2.82	2.80	3.03	3.03	2.84
Average age of household head (years)	47.34	47.64	46.95	47.52	45.33	46.79	37.44	41.83	47.05
Number of households in sample	2,040	1,947	1,504	1,049	1,084	718	587	642	9,571
Estimated total number in population:									
Households ('000)	*1,766.9*	*1,320.6*	*794.5*	*461.6*	*450.9*	*144.5*	*26.0*	*74.3*	*5,039.2*
Persons ('000)	*4,983.9*	*3,737.1*	*2,329.8*	*1,261.7*	*1,269.7*	*404.7*	*78.8*	*225.2*	*14,290.9*

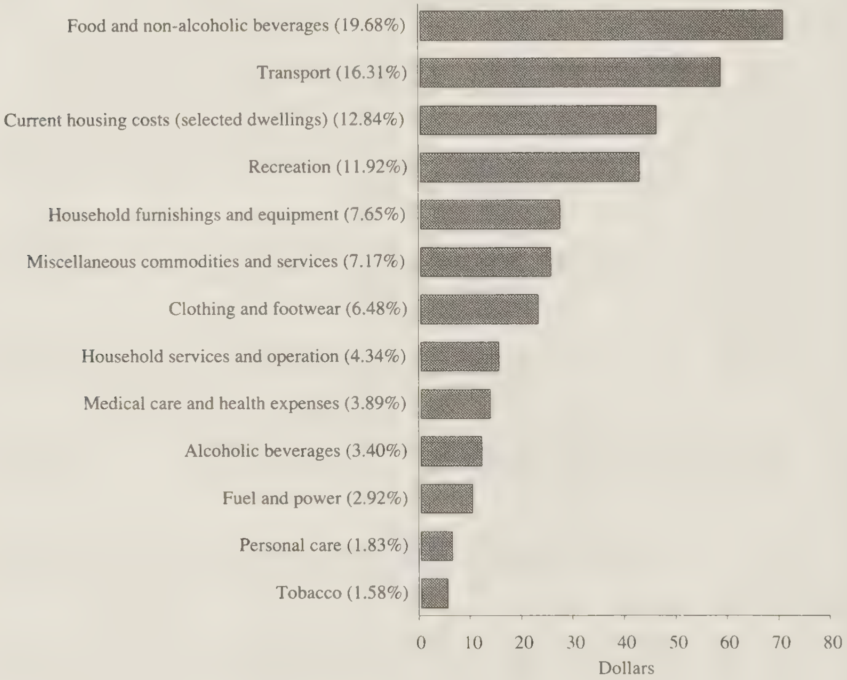
(a) The average obtained when the total estimated expenditure for a particular broad expenditure group is divided by the estimated number of households within the scope of the survey. *(b)* Excluded from this item are fuel and power for motor vehicles, which are included in Transport. *(c)* Includes fuel and power for motor vehicles. *(d)* Includes purchases of dwellings and other property; additions/extensions and renovations to dwellings; outside building and swimming pools; and payments to landscape contractors. *(e)* Household income is the sum of the gross weekly income of all household members.

1984 HOUSEHOLD EXPENDITURE SURVEY: AVERAGE INCOME, BENEFITS AND TAXES BY GROSS HOUSEHOLD INCOME DECILE

Income,benefits and taxes	*Gross income decile (a)* *Lowest 10%*	*Second decile*	*Third decile*	*Fourth decile*	*Fifth decile*	*Sixth decile*	*Seventh decile*	*Eighth decile*	*Ninth decile*	*Highest 10%*	*All house-holds*
					—Average weekly value ($)—						
Private income	**11.83**	**29.31**	**80.09**	**221.38**	**315.14**	**397.39**	**491.22**	**595.04**	**738.02**	**1,136.91**	**401.43**
Direct benefits:											
Age pension	51.10	51.78	39.85	11.36	5.74	5.66	4.87	4.58	3.54	3.10	18.16
Invalid pension	4.12	7.96	8.38	5.40	3.09	2.28	2.72	1.96	1.33	1.13	3.84
Veterans' Affairs pension	3.83	17.68	22.64	10.45	5.46	3.63	3.25	2.91	1.12	1.02	7.21
Unemployment benefit	5.48	11.92	22.33	13.51	7.49	5.67	3.49	3.87	2.95	3.25	8.01
Sole parent benefit	1.06	19.78	11.04	4.55	2.19	2.48	1.35	1.59	*	1.25	4.65
Family allowance	1.04	2.64	5.14	5.93	7.40	7.35	7.10	6.47	6.37	6.63	5.61
Other direct benefits	6.69	5.96	9.33	5.58	3.22	3.54	3.71	2.60	2.70	3.51	4.69
Total direct benefits	*73.33*	*117.72*	*118.71*	*56.77*	*34.59*	*30.60*	*26.49*	*23.98*	*19.17*	*19.89*	*52.18*
Gross Income	**85.16**	**147.03**	**198.80**	**278.15**	**349.73**	**427.99**	**517.70**	**619.01**	**757.19**	**1,156.80**	**453.60**
Direct tax	*0.30*	*2.43*	*7.53*	*32.20*	*52.53*	*75.99*	*104.63*	*134.01*	*175.99*	*331.06*	*91.60*
Disposable income	**84.86**	**144.59**	**191.27**	**245.95**	**297.20**	**352.00**	**413.07**	**485.01**	**581.19**	**825.73**	**362.01**
Indirect benefits:											
School education	4.21	12.36	21.56	26.17	27.21	30.58	31.33	31.91	31.28	32.07	24.88
Tertiary education	2.03	3.37	6.45	9.02	7.56	9.28	11.11	12.88	14.92	24.71	10.13
Other education benefits	0.46	1.15	2.10	2.55	2.83	3.16	3.37	3.55	3.72	4.44	2.73
Total education benefits	6.70	16.88	30.12	37.73	37.60	43.02	45.81	48.34	49.92	61.22	37.74
Hospital care	18.49	24.46	25.42	21.83	22.28	22.42	22.58	22.74	24.05	26.47	23.08
Medical clinics	4.79	7.16	8.24	7.65	8.27	8.17	8.25	8.22	8.56	9.47	7.88
Pharmaceuticals	3.23	4.54	4.06	1.71	1.34	1.30	1.20	1.13	1.10	1.16	2.08
Other health benefits	1.00	1.58	2.01	2.11	2.33	2.39	2.46	2.48	2.56	2.94	2.19
Total health benefits	27.52	37.74	39.73	33.30	34.22	34.27	34.49	34.56	36.27	40.05	35.22
Housing benefits	4.30	5.12	3.01	3.01	3.27	3.62	1.95	0.72	0.76	0.19	2.59
Social security and welfare benefits	13.83	15.02	13.14	6.76	4.86	4.58	3.96	3.76	3.06	3.23	7.22
Total indirect benefits	*52.34*	*74.76*	*86.00*	*80.81*	*79.94*	*85.50*	*86.21*	*87.38*	*90.00*	*104.69*	*82.78*
Disposal income plus indirect benefits	**137.21**	**219.36**	**277.28**	**326.76**	**377.15**	**437.50**	**499.28**	**572.39**	**671.19**	**930.42**	**444.79**
Indirect taxes by commodity group:											
Petrol and petroleum products	2.16	3.35	5.03	5.83	7.14	7.58	8.59	9.28	10.63	12.72	7.23
Tobacco	1.52	2.16	2.95	3.54	3.42	3.91	3.88	3.84	4.20	4.35	3.38
Alcohol	1.17	1.47	2.28	3.23	3.43	4.44	4.84	5.60	6.18	8.58	4.12
Ownership of dwellings	1.80	2.01	2.16	3.10	3.61	4.03	4.30	4.39	4.89	5.69	3.60
Other indirect taxes	5.43	8.14	11.44	14.04	16.40	19.78	22.80	24.59	30.60	40.97	19.41
Total indirect taxes	*12.07*	*17.14*	*23.86*	*29.73*	*34.00*	*39.74*	*44.40*	*47.70*	*56.48*	*72.31*	*37.74*
Final income	**125.13**	**202.22**	**253.42**	**297.03**	**343.15**	**397.76**	**454.87**	**524.69**	**614.71**	**858.11**	**407.05**
Total benefits	*125.67*	*192.48*	*204.72*	*137.58*	*114.53*	*116.11*	*112.69*	*111.36*	*109.17*	*124.58*	*134.96*
Total taxes	*12.37*	*19.57*	*31.39*	*61.93*	*86.53*	*115.73*	*149.04*	*181.70*	*232.48*	*403.38*	*129.34*

(a) Ten per cent groupings of the estimated population when households are ranked in ascending order according to each household's total gross weekly income.

AVERAGE WEEKLY HOUSEHOLD EXPENDITURE ON COMMODITIES AND SERVICES AUSTRALIA, 1984



Distribution of Income

The effects of government benefits and taxes on household income

All households in Australia pay taxes to government, whether directly in the form of income tax or indirectly through taxes on goods and services purchased. Similarly, all households in Australia receive benefits from government, whether directly in the form of regular cash payments such as age pensions or indirectly in the form of a range of services which are provided to households either without charge or at less than their full cost to government. Using data from the 1984 Household Expenditure Survey, supplemented by data from other sources, the ABS undertook a study of the effects of government benefits and taxes on the distribution of income of households in 1984.

The methodological approach employed in this study is based on that used in similar studies conducted by the United Kingdom Central Statistical Office. The most that can be claimed for the approach is that it provides a useful framework within which a large body of information which is relevant to the assessment of the redistributive effects of transactions between households and governments can be drawn together. It is important to recognise that the estimates of the effects of government benefits and taxes on household income depend on the particular assumptions which have been made.

In the study, some major components of government outlays and revenues which affect households were allocated to the households which received the benefits or paid the taxes. The incidence of government benefits and taxes and their effects on average household income were then examined for various household groups.

To illustrate the effects of government benefits and taxes on household income, a series of income measures was calculated. The starting point of the analysis was *private income*: the total current weekly income of all members of the household before the deduction of taxes and excluding any government benefits. Private income includes income from employment, self-employment, investments and other non-government sources. Next, government direct benefits to persons, such as pensions and unemployment benefits, were added to private income to obtain *gross income*. Direct taxes were then deducted to obtain *disposable income*. Government indirect benefits for housing, education, health and social security and welfare were then added to give *disposable income plus indirect benefits*. Finally, indirect taxes paid were deducted to produce *final income*.

The following table shows the way in which the various income measures are related in the form of averages for all households and for two classes of households: those whose principal source of gross income was from private sources and those whose principal source of income was government pensions and benefits.

AVERAGE WEEKLY INCOME OF HOUSEHOLDS FOR VARIOUS INCOME MEASURES BY PRINCIPAL SOURCE OF GROSS INCOME OF THE HOUSEHOLD, 1984

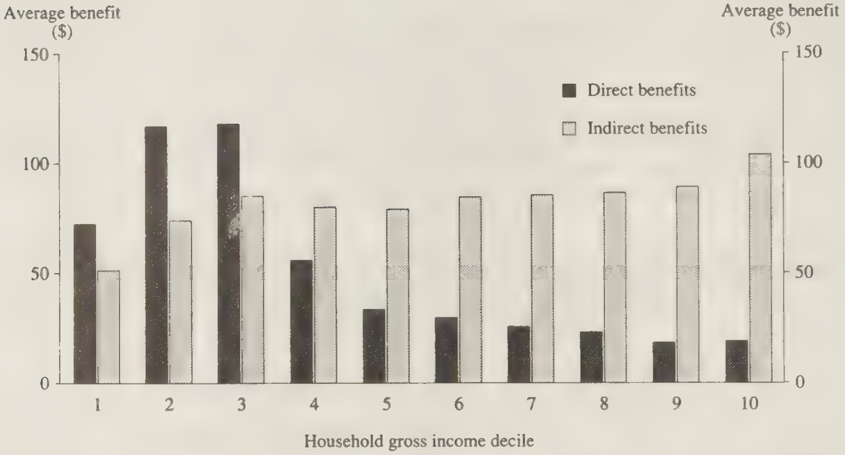
	Principal source of gross income		
	Private income	*Government pensions and benefits*	*All sources*
	—Average weekly value ($)—		
Private income	537.38	19.32	401.43
plus Government direct benefits	21.69	137.85	52.18
Gross income	559.08	157.17	453.60
less Direct tax	123.29	2.52	91.60
Disposable income	435.78	154.65	362.01
plus Indirect benefits	83.62	80.43	82.78
Disposable income plus indirect benefits	519.40	235.08	444.79
less Indirect taxes	*44.97*	*17.42*	*37.74*
Final income	474.43	217.66	407.05
Total benefits	*105.31*	*218.28*	*134.96*
Total taxes	*168.26*	*19.94*	*129.34*

In this study the value of benefits allocated to households totalled $35,365 million while the total tax revenue allocated was $33,892 million. Translated into average values per household the value of benefits allocated was $134.96 per week and the amount of total taxes allocated was $129.34 per week.

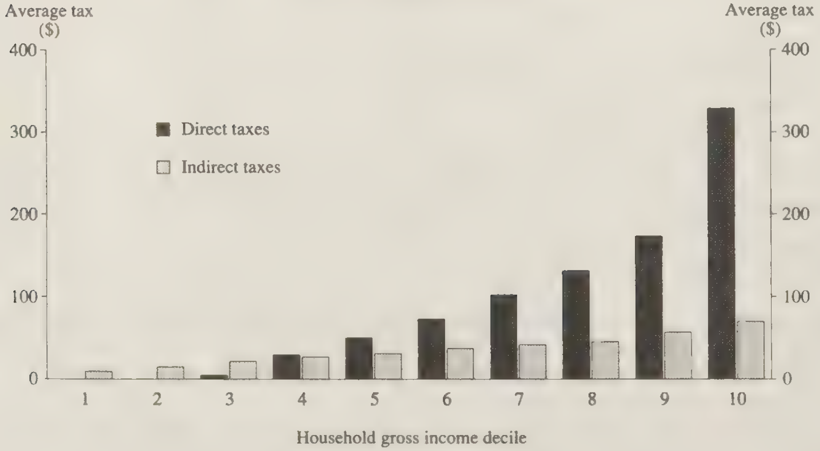
The fact that the total amount of benefits allocated did not differ greatly from the total amount of taxation revenue allocated has no particular significance, since both totals simply represent the aggregate of those components which could be readily allocated. It does, however, have the incidental effect of enabling the balance of benefits and taxes relating to particular household groups to be comprehended more readily as a broad measure of the net redistributive impact of those government activities which are included in the study.

The following diagrams illustrate the effect that government benefits and taxes have on household income when households are ranked according to their gross income.

AVERAGE WEEKLY BENEFITS PER HOUSEHOLD BY GROSS INCOME DECILE, 1984



AVERAGE WEEKLY TAXES PER HOUSEHOLD BY GROSS INCOME DECILE, 1984



Income Distribution Surveys

Surveys of income have been conducted by the ABS at irregular intervals. In the last such survey, conducted in the period September to December 1986, income was collected both on a last financial year basis, that is in respect of 1985–86, and on a current basis, that is at the time of interview.

As has been customary in such surveys, income was collected in respect of each of the following sources: wages or salaries; own business, trade or profession; government cash benefits; superannuation; interest, rent dividends; other sources. These were then aggregated to arrive at gross income.

The survey was designed to enable the production of estimates both for individuals and for groups of individuals such as income units, families and households. Preliminary and detailed final results of the survey were published in 1987, 1988 and 1989. The respective publications released are titled: *1986 Income Distribution Survey, Australia: Preliminary Results* (6545.0), *Persons with Earned Income* (6546.0) and *Income Units* (6523.0). Details of concepts, definitions, etc. employed in the survey and observations on the quality and reliability of the data can be found in these publications.

ALL INCOME UNITS: DECILE CLASSES, TYPE OF INCOME UNIT, GROSS INCOME SHARE AND MEAN GROSS WEEKLY INCOME, AUSTRALIA, SEPTEMBER–DECEMBER, 1986

	Married couple income units									
	With no dependent children		*With dependent children*		*One parent income units*		*One person income units*		*All income units*	
Decile class (a)	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*
Lowest	3.0	136	2.5	156	2.5	71	2.8	69	1.9	77
2nd	3.3	180	4.8	294	6.0	141	3.5	101	2.9	120
3rd	4.2	207	6.2	378	6.0	154	4.3	110	4.3	174
4th	5.1	252	7.1	446	7.1	165	5.1	137	5.4	225
5th	6.8	339	8.5	513	7.1	179	7.3	191	7.2	293
6th	9.1	440	9.4	578	8.0	202	9.5	251	8.7	362
7th	11.4	559	10.8	656	10.1	244	11.7	306	10.9	442
8th	13.9	682	12.4	760	12.0	314	13.6	361	13.5	550
9th	17.0	834	14.8	907	15.6	385	16.3	437	17.2	706
Highest	26.1	1,288	23.6	1,447	25.5	646	26.0	678	28.1	1,150
Total	**100.0**	**491**	**100.0**	**614**	**100.0**	**251**	**100.0**	**264**	**100.0**	**410**
Median gross weekly income ($)	389		543		186		210		328	
Mean gross weekly income ($)	491		614		251		264		410	
Number ('000)	1,785.2		1,968.6		315.1		3,392.2		7,464.1	

(*a*) Ten per cent groupings of the estimated population when income recipients or income units are ranked in ascending order according to each income recipient's or income unit's total gross income.

FULL-YEAR, FULL-TIME WORKERS (a): MEAN GROSS ANNUAL EARNED INCOME BY EDUCATIONAL ATTAINMENT BY AGE BY SEX, AUSTRALIA, 1985–86

	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
		—'000—		—Mean gross annual earned income($)—		
With post-school qualifications—						
Degree	371.0	151.7	522.6	32,850	25,040	30,580
Certificate (non-trade)/ diploma	417.5	376.2	793.7	27,580	18,980	23,500
Trade certificate	986.1	42.4	1,028.4	22,070	16,830	21,850
Other	65.2	33.2	98.3	21,970	17,310	20,400
Total	*1,839.8*	*603.5*	*2,443.1*	*25,490*	*20,260*	*24,200*
Without post-school qualifications—						
Left school at age—						
18 or over	185.3	55.0	240.3	21,610	16,580	20,460
17	272.3	125.8	398.1	20,220	16,150	18,940
16	357.2	173.9	531.1	20,220	15,570	18,700
15 or 14	674.0	275.5	949.5	19,270	14,690	17,940
13 or under	140.9	35.3	176.3	18,890	13,260	17,760
Total	*1,629.7*	*665.5*	*2,295.3*	*19,870*	*15,270*	*18,540*
Total *(b)*	**3,471.5**	**1,271.3**	**4,742.8**	**22,850**	**17,640**	**21,450**

(a) Excludes 119,200 full-year, full-time workers whose earned income was zero. *(b)* May include a small number of persons who never attended school.

Welfare-Related Surveys Conducted by the ABS

1988 Survey of Disability and Ageing

The Australian Bureau of Statistics conducted a survey throughout Australia in the period February–May 1988 to obtain information about the characteristics of disabled and aged people and their requirements for care. In common with the 1981 Survey of Handicapped Persons, the Survey comprised two parts. The first covered people living in a sample of households. The second covered residents and patients living in selected health establishments in Australia.

The Survey aimed to identify disabled and handicapped people and their abilities and requirements for help with a number of activities of personal and household daily living, for example showering/bathing and light housework.

The Survey also collected data on the care requirements of non-disabled people aged sixty years or more for the household activities of daily living. A small amount of information was also requested from those people who live with a disabled person and who are the main providers of help to that person with the personal activities of daily living.

For both the 1981 and 1988 surveys, a disabled person was defined as a person who had one or more of a group of selected impairments and disabilities which had lasted, or were likely to last, for six months or more.

A handicapped person was in turn defined as a disabled person aged 5 years or over who was further identified as being limited to some degree in his/her ability to perform certain tasks in relation to one or more of the following five areas:

- self care;
- mobility;
- verbal communication;
- schooling;
- employment.

Disabled people aged under 5 years were all regarded as being handicapped.

The 1988 Survey estimated that 2,543,000 people or 15.6 per cent of the Australian population were disabled. The incidence of disability increased significantly with age. Of children aged less than 5 years, 3.3 per cent were disabled, while 63.5 per cent of people aged 75 years and over were disabled.

Approximately 83 per cent of the disabled population or 2,120,600 people (13 per cent of the Australian population) were found by the survey to be handicapped.

The handicapped population comprised:

- 657,500 people (4.0 per cent of the Australian population) who needed help from another person to perform one or more of a group of selected tasks (i.e. had a 'severe' handicap);
- 550,000 people (3.4 per cent) who needed no help but had difficulty performing one or more of the selected tasks (i.e. had a 'moderate' handicap);
- 607,500 people (3.7 per cent) who needed no help with, and did not have difficulty with, any of the selected tasks but used an aid to perform one or more of them or had difficulty walking 200 metres or up and down stairs (i.e. had a 'mild' handicap); and

1,960,600 handicapped people (92.5 per cent of the handicapped population) lived in households, and 160,000 handicapped people (7.5 per cent) lived in health establishments.

Handicapped people in health establishments were much more likely than those in households to need help from another person viz., 85.8 per cent of handicapped people in health establishments had a severe handicap, while in households 26.5 per cent of handicapped people had a severe handicap.

Disabled and Aged Persons, Australia, 1988, Preliminary Results (4118.0) was released on 21 February 1989. *Carers of the Handicapped at Home, Australia, 1988* (4122.0) was released on 18 January 1990. Two further publications, *Disability and Handicap, Australia, 1988* (4120.0) and *Domestic Care of the Aged, Australia, 1988* (4121.0) are due for release in April 1990.

NUMBER AND PERCENT OF PERSONS: SEX BY AGE BY WHETHER PERSON IS DISABLED OR ALSO HANDICAPPED, AUSTRALIA, 1988

	Disabled									
	Handicapped		*Not handicapped*		*Total*		*Not disabled*		*Total*	
Sex by Age	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Males										
0–4	24.8	4.0	*	*	24.8	4.0	601.4	96.0	626.2	100.0
5–14	90.1	7.2	16.2	1.3	106.4	8.5	1,149.9	91.5	1,256.3	100.0
15–29	109.1	5.4	37.7	1.8	146.8	7.2	1,891.1	92.8	2,037.9	100.0
30–44	158.5	8.5	46.2	2.5	204.7	11.0	1,658.1	89.0	1,862.8	100.0
45–59	213.2	17.4	44.5	3.6	257.7	21.1	964.1	78.9	1,221.8	100.0
60–64	134.9	37.6	21.2	5.9	156.0	43.5	202.4	56.5	358.5	100.0
65–69	102.4	35.4	34.5	11.9	136.8	47.3	152.5	52.7	289.3	100.0
70–74	85.9	40.4	22.2	10.4	108.1	50.8	104.6	49.2	212.7	100.0
75 and over	134.7	53.1	19.6	7.7	154.3	60.8	99.6	39.2	253.9	100.0
Total	*1,053.5*	*13.0*	*242.0*	*3.0*	*1,295.5*	*16.0*	*6,823.8*	*84.0*	*8,119.4*	*100.0*
Females										
0–4	15.8	2.7	*	*	15.8	2.7	581.6	97.3	597.4	100.0
5–14	60.4	5.1	14.9	1.2	75.3	6.3	1,119.4	93.7	1,194.6	100.0
15–29	97.3	4.8	30.9	1.5	128.2	6.4	1,886.4	93.6	2,014.6	100.0
30–44	153.5	8.3	32.1	1.7	185.6	10.0	1,661.8	90.0	1,847.4	100.0
45–59	190.4	16.3	27.8	2.4	218.2	18.7	951.6	81.3	1,169.8	100.0
60–64	90.4	24.4	12.9	3.5	103.3	27.9	267.0	72.1	370.3	100.0
65–69	93.2	28.6	23.9	7.3	117.1	35.9	208.9	64.1	326.0	100.0
70–74	101.8	38.2	20.5	7.7	122.3	45.9	144.0	54.1	266.3	100.0
75 and over	264.2	61.1	17.5	4.0	281.7	65.1	151.0	34.9	432.7	100.0
Total	*1,067.1*	*13.0*	*180.5*	*2.2*	*1,247.5*	*15.2*	*6,971.7*	*84.8*	*8,219.2*	*100.0*
Persons										
0–4	40.7	3.3	*	*	40.7	3.3	1,183.0	96.7	1,223.6	100.0
5–14	150.5	6.1	31.1	1.3	181.6	7.4	2,269.3	92.6	2,450.9	100.0
15–29	206.4	5.1	68.6	1.7	275.0	6.8	3,777.5	93.2	4,052.5	100.0
30–44	312.0	8.4	78.3	2.1	390.3	10.5	3,319.9	89.5	3,710.2	100.0
45–59	403.6	16.9	72.3	3.0	475.9	19.9	1,915.7	80.1	2,391.6	100.0
60–64	225.2	30.9	34.1	4.7	259.3	35.6	469.5	64.4	728.8	100.0
65–69	195.6	31.8	58.3	9.5	254.0	41.3	361.4	58.7	615.4	100.0
70–74	187.7	39.2	42.7	8.9	230.4	48.1	248.6	51.9	479.0	100.0
75 and over	398.9	58.1	37.1	5.4	436.0	63.5	250.6	36.5	686.6	100.0
Total	**2,120.6**	**13.0**	**422.5**	**2.6**	**2,543.1**	**15.6**	**13,795.5**	**84.4**	**16,338.6**	**100.0**

DISABLED PERSONS: TYPE OF PRIMARY DISABLING CONDITION (a) BY TYPE OF RESIDENCE BY SEX, AUSTRALIA, 1988
('000)

Type of primary disabling condition	*Households*			*Health establishments*			*Total*		
	Males	*Females*	*Total*	*Males*	*Females*	*Total*	*Males*	*Females*	*Total*
Mental disorders other than retardation, degeneration or slow at learning	75.4	90.6	166.0	8.5	17.9	26.5	83.9	108.6	192.5
Mental retardation, mental degeneration due to brain damage, slow at learning and specific delays in development	56.5	27.3	83.8	9.7	18.5	28.1	66.2	45.8	112.0
Total with mental disorders	*131.9*	*118.0*	*249.9*	*18.2*	*36.4*	*54.6*	*150.1*	*154.4*	*304.5*
Sight loss	50.1	56.4	106.5	2.4	7.6	9.9	52.4	64.0	116.4
Hearing loss	207.2	132.6	339.8	2.0	3.7	5.8	209.2	136.3	345.5
Nervous system diseases	78.9	69.6	148.5	8.2	13.9	22.1	87.1	83.5	170.6
Circulatory diseases	141.1	119.6	260.7	5.8	13.8	19.6	146.9	133.4	280.3
Respiratory diseases	124.2	86.0	210.2	2.6	2.5	5.1	126.8	88.5	215.3
Diseases of the musculoskeletal system and connective tissue	309.0	370.1	679.2	5.6	22.0	27.6	314.6	392.2	706.8
All other diseases and conditions	206.5	182.9	389.4	8.4	19.4	27.8	214.9	202.3	417.2
Total with physical conditions	*1,117.0*	*1,017.2*	*2,134.2*	*35.0*	*83.0*	*118.0*	*1,152.0*	*1,100.2*	*2,252.2*
Total	**1,244.5**	**1,132.4**	**2,376.9**	**51.0**	**115.1**	**166.1**	**1,295.5**	**1,247.5**	**2,543.1**

(a) Persons with a primary condition which had both a mental and physical manifestation are shown against both the mental and physical components of the table although they are included only once in the total.

HANDICAPPED PERSONS: TYPE OF RESIDENCE BY AREA(a) AND SEVERITY(b) OF HANDICAP, AUSTRALIA, 1988
('000)

	Households				*Health establishments*				*Total*			
Area of handicap	*Severe*	*Moderate*	*Mild*	*Total*	*Severe*	*Moderate*	*Mild*	*Total*	*Severe*	*Moderate*	*Mild*	*Total*
Self care	278.0	421.4	67.5	766.9	119.7	11.1	10.4	141.2	397.8	432.5	77.9	908.1
Mobility	427.3	435.7	614.5	1,477.4	125.6	11.1	20.0	156.6	552.9	446.7	634.5	1,634.0
Communication	53.6	28.7	232.5	314.7	55.4	12.7	17.6	85.8	109.0	41.4	250.2	400.5
Schooling	. .	. .	. .	141.7	. .	. .	. .	2.4	. .	. .	. .	144.1
Employment	. .	. .	. .	956.6	. .	. .	. .	. .	. .	. .	. .	956.6
Handicapped persons aged less than 5	. .	. .	. .	40.4	. .	. .	. .	0.2	. .	. .	. .	40.7
Total	**520.3**	**540.4**	**594.6**	**1,960.6**	**137.2**	**9.6**	**13.0**	**160.0**	**657.5**	**550.0**	**607.5**	**2,120.6**

(a) Total may be less than the sum of the components since persons may have a handicap or limitation in more than one area. (b) Severity was not determined for schooling and employment limitation or for children aged 0–4 years.

DISABLED PERSONS AGED 5 YEARS AND OVER IN HOUSEHOLDS WHO NEED AND RECEIVE HELP: TYPE OF HELP/TYPE OF MAIN PROVIDER BY ACTIVITIES FOR WHICH HELP WAS RECEIVED, AUSTRALIA, 1988

('000)

	Activities for which help received								
Type of help/type of main provider	*Self care*	*Verbal communication*	*Mobility*	*Health care*	*Home help*	*Home maintenance*	*Meals*	*Personal affairs*	*Transport*
Informal help from person usually resident in household—									
Female spouse	75.2	10.5	84.2	78.7	220.0	130.1	101.6	56.9	91.9
Male spouse	62.0	3.9	84.7	37.6	168.9	266.9	37.4	26.5	175.7
Mother	48.7	34.5	46.7	20.5	35.3	12.9	23.7	35.6	39.7
Father	3.8	2.5	6.7	1.7	2.9	18.4	1.3	5.4	13.3
Daughter	24.4	6.8	30.9	25.3	55.1	23.0	25.8	18.1	42.6
Son	2.8	1.2	11.3	7.3	23.9	67.5	3.9	8.5	28.6
Other relative/friend	14.0	4.2	17.2	11.4	36.9	46.3	17.6	11.3	26.3
Informal help from person not usually resident in household—									
Female spouse	1.6	0.3	0.8	1.5	4.2	3.6	2.1	0.7	2.3
Male spouse	2.1	*	2.3	1.5	3.3	3.9	1.8	1.0	3.2
Mother	2.3	0.7	3.7	1.2	2.9	1.1	0.8	2.1	5.6
Father	0.1	*	0.1	0.1	0.4	2.9	*	0.3	0.9
Daughter	5.1	2.8	28.0	14.0	33.5	18.6	6.0	14.0	69.2
Son	1.7	1.2	7.8	1.9	9.0	65.4	0.4	10.3	20.2
Other relative/friend	7.6	2.4	42.1	8.9	39.1	116.4	5.1	21.5	102.7
Formal help from—									
Home care/home help/council handyperson	3.3	1.4	3.8	2.8	80.2	24.7	3.5	2.1	6.6
Community/home nursing	14.2	*	2.4	22.4	3.3	*	*	0.7	1.1
Privately arranged help/commercially provided service	1.8	*	4.9	6.7	46.5	136.3	4.3	1.8	37.2
Meals on wheels*(a)*	*	*	*	*	*	*	26.0	*	*
Voluntary community assistance scheme	0.2	*	2.7	0.8	0.6	4.2	1.3	0.5	3.6
Physiotherapist	*	*	*	1.1	*	*	*	*	*
Chiropodist/podiatrist	*	*	*	114.6	*	*	*	*	*
Other	2.0	2.2	4.2	8.1	1.6	17.2	1.5	3.7	12.1
Total	**273.1**	**74.7**	**384.5**	**368.1**	**767.8**	**959.4**	**263.9**	**221.0**	**682.6**

(a) Meals on Wheels only applicable to meals.

DISABLED PERSONS AGED 5 YEARS AND OVER IN HOUSEHOLDS WITH AN UNMET NEED FOR HELP: AGE, SEX AND LIVING ARRANGEMENT BY ACTIVITIES FOR WHICH AN UNMET NEED FOR HELP EXISTS, AUSTRALIA, 1988
('000)

	Activities for which unmet need for help exists								
Age, sex and living arrangement	*Self care*	*Mobility*	*Health care*	*Home help*	*Home maintenance*	*Meals*	*Personal affairs*	*Transport*	*Total with unmet need(a)*
Age									
5–14	3.6	3.1	*	*	*	*	*	2.1	6.2
15–29	3.5	4.2	2.0	10.6	9.2	3.3	6.4	8.1	30.0
30–44	2.6	6.7	6.6	36.9	36.3	6.7	7.4	12.3	72.6
45–59	5.7	5.8	7.8	37.9	47.8	7.0	4.5	10.9	82.4
60–64	3.0	4.2	5.1	19.5	35.9	2.7	3.5	7.2	55.2
65–69	2.5	4.2	8.1	18.4	39.1	1.3	1.1	7.6	53.2
70–74	3.5	3.3	6.8	19.4	36.0	2.4	1.5	7.6	54.6
75 and over	4.9	13.0	16.5	34.8	45.1	4.2	4.7	11.4	85.3
Sex									
Males	14.4	16.6	20.4	40.9	112.0	10.6	13.7	20.8	176.2
Females	14.8	27.9	32.5	136.7	137.4	17.0	15.3	46.5	263.1
Living arrangement									
Lives alone	5.8	14.3	15.0	57.1	65.0	8.2	9.2	19.1	117.2
Lives with other people	23.4	30.2	37.9	120.5	184.4	19.4	19.8	48.1	322.2
Total	**29.3**	**44.5**	**52.9**	**177.6**	**249.4**	**27.6**	**29.0**	**67.3**	**439.4**

(*a*) Unmet need for at least one activity. Total may be less than sum of components since persons may have an unmet need for help with more than one activity.

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9

HEALTH

This chapter is primarily concerned with the activities of the Commonwealth relating to health. There is, however, government responsibility for health at the State and local levels. There are constitutional limits on the Commonwealth Government's role in the health care field, and the primary responsibility for planning and provision of health services is with the State and Territory governments.

At the national level, health services in Australia are administered by the Commonwealth Government. The Government appoints two Ministers to the Portfolio of Community Services and Health. The Minister for Community Services and Health exercises overall responsibility over the Commonwealth Department of Community Services and Health, represents the portfolio in Cabinet and has particular responsibility for Budget matters and major policy decisions. The Minister for Housing and Aged Care has responsibility for the development and administration of particular health matters, including the Pharmaceutical Benefits Scheme and Therapeutic Goods. The Commonwealth Government is primarily concerned with the formation of broad national policies, and influences policy making in health services through its financial arrangements with the State and Territory governments, through the provision of benefits and grants to organisations and individuals, and through the regulation of health insurance.

The direct provision of health services, broadly speaking, is the responsibility of the State governments. Each of the States and the Northern Territory has a Minister who is responsible to the government of his particular State or Territory for the administration of its health authorities. In some States, the responsibility for health services is shared by several authorities whilst in others, one authority is responsible for all these functions.

Health care is also delivered by local government, semi-voluntary agencies, and profit making non-governmental organisations.

Medicare

Details of the health financing arrangements under the Medicare program introduced by the Commonwealth Government in February 1984 are available in *Year Book* No. 68.

Since the introduction of the Medicare Program the income thresholds on which the levy is payable have been revised. From 1 July 1989 no levy is payable by single people earning less than $10,330 per annum or by sole parents and married couples with combined income less than $17,400 per annum, with a further $2,100 per annum allowed for each dependent child.

'Shading-in' arrangements apply in respect of persons with taxable incomes marginally above the threshold.

The levy was increased from 1 per cent to 1.25 per cent of taxable income on 1 December 1986.

Medicare benefits

The Health Insurance Act provides for a Medicare Benefits Schedule which lists medical services and the Schedule (standard) fee applicable in respect of each medical service. The Schedule covers services attracting Medicare benefits rendered by legally qualified medical practitioners, certain prescribed services rendered by approved dentists and optometrical consultations by participating optometrists. Up to 1985 Schedule fees were set and updated by independent fee tribunals appointed by the Government and in which the Australian Medical Association (AMA) participated: the Government has determined the increase in Schedule fees since 1986. Medical services in Australia are generally delivered by either private medical practitioners on a fee-for-service basis, or medical practitioners employed in hospitals. The Schedule is constantly being reviewed through ongoing consultation with the medical profession and it is updated twice yearly to reflect current medical practice.

Medicare benefits are payable at the rate of 85 per cent of the Schedule fee for services, except those to hospital inpatients with a maximum payment by the patient of $20 for each service where the Schedule fee is charged. Where a doctor charges above the Schedule fee, the patient is responsible for any amount in excess of the Schedule fee in addition to the 15 per cent/$20 'patient gap'.

For medical Services rendered in hospitals or day-hospital facilities to private in-patients, the level of Medicare benefit is 75 per cent of the Schedule fee for each item with no maximum patient gap. The private health insurance funds cover the remaining 25 per cent (i.e. up to the level of the Schedule fee) for insured patients.

Gap benefits are not payable for out-of-hospital medical services. However, where accumulated gap payments for these services exceed $150 in a year, further services attract Medicare benefits equal to 100 per cent of the Schedule fee.

Under Medicare, medical practitioners may choose to bill the Commonwealth directly rather than billing the patient. In so doing, they accept the Medicare benefit as full payment.

Fee-for-service rebates are paid at differential rates if a medical practitioner had been recognised by the Minister for Community Services and Health as a Specialist or Consultant Physician (or Psychiatrist) and the patient has been referred by another practitioner.

Revised arrangements were introduced on 1 August 1987 for the payment of Medicare benefits for pathology services. These arrangements included the Commonwealth Pathology Accreditation Scheme which was introduced to ensure quality of pathology services throughout Australia. The Principles of Accreditation incorporated the standards recognised by the National Pathology Accreditation Advisory Council.

Currently Australia has reciprocal health care agreements with the United Kingdom, New Zealand, Italy, Sweden and Malta whereby Australian visitors to those countries, and from those countries to Australia, are entitled to access to the host country's public health system for immediately necessary medical and hospital treatment.

In 1988–89 claims associated with 143 million services were processed by the Health Insurance Commission involving benefit payments of $3,401 million. Summary statistics on benefits paid for medical services are provided below.

MEDICARE BENEFITS: NUMBER OF SERVICES, AMOUNT OF BENEFITS PAID AND BILLING SERVICES, STATES AND TERRITORIES, 1988–89

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*ACT*	*NT*	*O'seas*	*Aust.*
					—'000—					
Number of services	55,676.5	33,810.1	24,058.0	11,818.2	11,543.0	3,528.0	1,885.5	807.8	183.2	143,310.4
					—$ million—					
Benefits paid	1,322.2	808.6	562.0	289.7	270.0	79.7	48.3	16.8	3.8	3,401.0
					—per cent—					
Billing services—										
Direct billing	61.9	48.9	55.7	50.6	53.7	45.1	35.1	66.2	0	55.4
Lower than Schedule fee	3.4	6.6	6.8	4.1	5.1	11.1	4.5	1.7	40.2	5.2
Equal to Schedule fee	10.3	11.1	7.9	14.8	9.7	10.3	7.9	3.4	0.9	10.3
Greater than Schedule fee	24.4	33.4	29.5	30.5	31.6	33.5	52.5	28.8	58.9	29.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

MEDICARE BENEFITS: AMOUNT PAID BY BROAD SERVICE TYPE, STATES AND TERRITORIES, 1988–89

($ million)

Type of service	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*ACT*	*NT*	*O'seas*	*Aust.*
GP consultation	511.0	317.9	216.7	114.4	103.8	34.2	17.3	6.9	1.4	1,323.6
Specialist consultation	210.7	139.7	81.8	51.3	36.6	11.3	9.1	1.7	0.7	542.9
Obstetrics	16.4	12.7	6.0	3.5	4.4	1.3	1.1	0.4	0.1	45.9
Anaesthetics	24.4	18.4	10.5	6.3	5.7	1.8	1.0	0.2	0.1	68.5
Pathology	203.8	107.0	97.1	35.9	42.7	11.5	5.0	3.7	0.5	507.2
Diagnostic imaging	149.1	85.1	58.2	30.4	33.3	7.8	6.0	2.0	0.5	372.3
Operations	123.7	79.9	60.6	30.7	26.3	7.5	5.1	1.2	0.4	335.4
Optometry	27.5	17.7	11.7	5.9	6.4	2.2	1.1	0.5	0	73.0
Other	55.5	30.4	19.4	11.3	10.8	2.0	2.6	0.2	0.2	132.3
Total	**1,322.2**	**808.6**	**562.0**	**289.7**	**270.0**	**79.7**	**48.3**	**16.8**	**3.8**	**3,401.0**

Hospital care

From 1 February 1984, basic public hospital services have been provided free of charge. Under Medicare, in-patient accommodation and care in a shared ward by a doctor employed by a hospital are provided free of charge, together with a range of casualty out-patient services. The scheme does not cover hospital charges for private accommodation in a public hospital, private hospital treatment, nor care in a public hospital by a doctor of the patient's choice. It is possible however for persons to take out hospital insurance with registered health benefits organisations to cover these situations and Medicare benefits are available for private medical practitioners' charges.

Patients who are accommodated in either private or public hospitals for continuous periods in excess of 35 days and who have not been certified as acute care patients, are in essence nursing home–type patients and are required to make a statutory non-insurable patient contribution in the same way that a patient in a nursing home does. For a private nursing home–type patient in a public hospital, fees are reduced and hospital benefits paid by registered health benefits organisations are decreased accordingly. These patients are also required to make the patient contribution. In a private hospital, the benefits are reduced to $100 a day, less the amount of the patient contribution. Any charges by private hospitals in excess of available benefits plus the statutory patient contribution become the responsibility of the patient.

Where a patient's doctor considers that a patient has continuing need of acute care, the doctor may issue a certificate under section 3 of the Health Insurance Act to that effect, and the nursing home-type patient arrangements do not apply. The arrangements also provide for a review mechanism in the form of the Acute Care Advisory Committee which, when requested (e.g. by a private health fund) to do so, may review such certificates and recommend that they be varied or revoked.

Private hospitals

During the period 1 February 1984 to 30 September 1986, the Commonwealth subsidised patients in private hospitals by making bed-day payments. Three levels of bed-day payments were made. These were aligned to the particular category of hospital in which the patient was treated. Health insurance benefits were similarly aligned.

Commencing 1 March 1987, and extended from 1 October 1987, a system of patient classification for payment of basic health fund benefits was applied. Under this system, five classes of hospital patients were identified. These were: advanced surgical, surgical/obstetric, psychiatric, rehabilitation and other 'medical' patients. Differential levels of basic health fund benefits are payable according to each patient's classification, and step-down periods (i.e. lengths of stay in hospitals) also apply for each classification.

The States have always had primary responsibility for the planning and provision of health services and facilities within their respective boundaries. However, associated with private hospital categorisation, the Commonwealth also had a responsibility, in consultation with the States, for the approval and categorisation of private hospital facilities. Because of this overlap of responsibilities, the Commonwealth decided to discontinue its regulatory controls in the private hospital sector from 1 October 1986, leaving the States with the sole authority over such matters. Also, in the context of budgetary considerations, Commonwealth subsidisation of the private hospital sector through bed-day subsidies ceased from 1 October 1986.

Acting on the recommendations of a joint industry working party, comprised of representatives of the private hospital and health insurance industries and the Australian Medical Association, the Commonwealth approved a system of classifying patients in private hospitals for health insurance benefits purposes. The patient classification system was introduced on 1 March 1987 and replaced the private hospital categorisation arrangements. Patient classification more appropriately relates basic health insurance benefits more directly to the actual costs of providing hospital services necessary to the treatment of patients' conditions.

From 1 March 1987, three classes of private hospital patients were declared for health insurance benefits purposes. These are: advanced surgical, surgical/obstetric and 'other' patients. Differential levels of benefits are payable in relation to a patient's classification and step–down periods (i.e. lengths of stay in hospitals) also apply to each classification. Advanced surgical patients, and surgical/obstetric patients, are defined according to specified medical procedures as contained in the Medicare Benefits Schedule. From 1 October 1987, the patient classification arrangements were expanded to accommodate higher, distinct basic benefits for psychiatric and rehabilitation patients.

Pharmaceutical Benefits Scheme

The Pharmaceutical Benefits Scheme, established under the provisions of the National Health Act, provides a comprehensive range of drugs and medicinal preparations which may be prescribed by medical practitioners for persons receiving medical treatment in Australia. In addition, there is a limited range of antibiotic, antibacterial, analgesic and antifungal preparations which may be prescribed by dental practitioners for the treatment of patients. The drugs and medicines are supplied by an approved pharmacist upon presentation of a prescription from the patient's medical or dental practitioner.

During 1988–89 patient contribution arrangements were as follows:

- *free of charge*—the holders of a Pensioner Health Benefits Card, Health Benefits Card, Dependant Treatment Entitlement Card or Service Pension Benefits Card and their dependants receive benefit items free of charge;
- *$2.50 per benefit item*—people in special need who hold a Health Care Card and their dependants, and those Social Security pensioners and Veterans' Affairs service pensioners who do not hold a PHB Card and their dependants, pay a contribution of $2.50 per benefit item;
- *$11 per benefit item*—all other people pay a contribution of $11 per benefit item.

At the same time, a scheme was introduced to provide protection for the chronically ill high drug user by placing a ceiling on the amount which could be paid by an individual or family for pharmaceutical benefits in a calendar year. Under the new arrangements, a person or family group who uses more than 25 pharmaceutical benefit prescriptions after the start of a calendar year qualifies for an entitlement to free pharmaceutical benefits for the remainder of that year.

In order to qualify for free pharmaceutical benefits under the 'safety net' arrangements, general or concessional patients may record each pharmaceutical benefit supplied on a prescription record form, obtainable from any pharmacy. After the supply of 25 prescriptions has been recorded, the form or forms may be presented to a pharmacy or any office of the Commonwealth Department of Community Services and Health for issue of a Pharmaceutical Benefits Entitlement Card conveying entitlement to free pharmaceutical benefits for the remainder of the year.

Under the Pharmaceutical Benefits Scheme the total cost, including patient contribution of prescriptions processed for payment, was $1,157.5 million in 1988–89. This figure does not include the cost of drugs supplied in certain psychiatric centres and geriatric centres or the cost of pharmaceutical benefits supplied through special arrangements, such as the Royal Flying Doctor Service (RFDS), Bush Nursing Centres and hormone treatment programs. As of 30 June 1988, arrangements for payments of some of these costs have been transferred to those States which were administering the services. The Commonwealth will continue to administer the RFDS and hormone treatment programs.

BENEFIT PRESCRIPTIONS AND COST OF MORE FREQUENTLY PRESCRIBED DRUG GROUPS, AUSTRALIA, 1988–89

Drug group	Benefit prescriptions		Total cost of benefit prescriptions (a)	
	Number	Percentage of total	Amount	Percentage of total
	'000	%	$'000	%
Non-steroidal anti-inflammatory drugs	8,862	8.8	94,152	8.1
Anti-asthmatics and antibronchitics	8,328	8.3	96,376	8.3
Benzodiazepines, sedatives and hypnotics	7,052	7.0	30,949	2.7
Penicillins	5,600	5.6	65,190	5.6
Diuretics	5,444	5.4	45,137	3.9
Beta-blockers	5,222	5.2	61,878	5.4
Antihypertensives	4,918	4.9	140,804	12.2
Anti-anginals	3,911	3.9	67,117	5.8
Oral contraceptives	3,351	3.3	38,567	3.3
Antidepressants	3,221	3.2	20,716	1.8
Water, salts and electrolytes	3,102	3.1	19,997	1.7
Non-narcotic analgesics	2,927	2.9	14,287	1.2
Topical corticosteroids	2,282	2.3	12,474	1.1
Antacids	2,249	2.2	14,839	1.3
Tetracyclines	2,083	2.1	17,686	1.5
Sulphonamides and urinary antiseptics	1,840	1.8	23,387	2.0
Anti-emetics	1,711	1.7	8,646	0.8
Narcotic analgesics	1,510	1.5	9,160	0.8
Eye anti-irritants and anti-allergics	1,369	1.4	7,982	0.7
Other eye preparations	1,353	1.3	13,293	1.2
Other drug groups	24,252	24.1	354,847	30.7
Total	**100,586**	**100.0**	**1,157,484**	**100.0**

(a) Includes Patients' contributions. Excludes Government expenditure on pharmaceutical benefits provided through miscellaneous services.

Source: Commonwealth Department of Community Services and Health.

Summary of personal benefit payments

For an analysis by purpose and economic type of expenditure by all Commonwealth Government authorities *see* Chapter 24, Public Finance.

Most Commonwealth Government health benefits are financed through the National Welfare Fund and the Health Insurance Commission. The following table shows personal benefit payments by Commonwealth Authorities for 1987–88.

COMMONWEALTH AUTHORITIES: PERSONAL BENEFIT PAYMENTS—HEALTH, 1987–88
($ million)

	NSW (a)	*Vic.*	*Qld*	*SA (a)*	*WA*	*Tas.*	*Total*
Hospital and other institutional services and benefits	*457.4*	*324.8*	*163.1*	*136.2*	*91.4*	*28.5*	*1,201.4*
Nursing homes	447.1	312.7	160.5	133.7	90.5	28.1	1,172.6
Hospital benefits	10.3	12.1	2.6	2.5	0.9	0.4	28.8
Clinic and other non-institutional services and benefits	*1,325.3*	*763.5*	*516.4*	*285.7*	*253.5*	*76.2*	*3,220.6*
Clinic and other non-institutional services n.e.c.	13.1	8.1	5.8	2.0	3.6	1.2	33.8
Medical benefits *(b)*	1,312.2	755.4	510.6	283.7	249.9	75.0	3,186.8
Public health	0.2	0.1	0.1	0.7	—	—	1.1
Pharmaceuticals, medical aids and appliances	385.3	236.9	150.1	81.0	71.1	24.2	948.6
Total	**2,168.2**	**1,325.3**	**829.7**	**503.6**	**416.0**	**128.9**	**5,371.7**

(a) State totals for New South Wales and South Australia include expenditure on personal benefit payments to residents in the Australian Capital Territory and the Northern Territory respectively. *(b)* Excludes $3.9 million for payments made overseas.

Commonwealth Government Subsidies and Grants to States

Hospital funding grants

New State and Territory funding arrangements were introduced on 1 July 1988. The former Identified Health Grants and Medicare Compensation Grants were terminated on 30 June 1988.

The new Hospital Funding Grants, totalling $3,406 million to the States and Territories in 1989–90, provide $3,341 million for hospital and related services, $38 million for incentives in the areas of post-acute and palliative care and day surgery procedures, $22 million towards hospital care for AIDS patients and $5.5 million to enable the development of a case mix based system as a management information system and potentially as a prospective payment system.

Hospital Funding Grants will operate in the first instance for the 5 year period 1988–89 to 1992–93 and be indexed each year to take account of population growth and adjusted for age and sex-weighted changes as well as price changes. The AIDS component is also indexed to take account of any increase in the number of AIDS patients. The 1989–90 Grant includes $24 million of payments to the States and Territories for a number of miscellaneous pharmaceutical benefits items supplied through special arrangements.

Commonwealth Government Subsidies and Grants to Organisations

Health program grants

Health program grants are authorised under Part IV of the Health Insurance Act. The scheme involves payments to approved organisations in respect of the costs or part thereof, incurred by those organisations in providing approved health services or an approved health service development project. The grants were first introduced in 1975 with the intention of establishing a scheme for funding a wide range of health services on other than a fee-for-service basis.

In 1987–88, a number of organisations previously funded under the Health Program Grants (HPG) arrangements commenced receiving funding under other arrangements. However, in 1988–89 additional organisations which had been funded under the Medicare Hospital Grants were included under HPG arrangements.

Funds appropriated for these grants amounted to $11.9 million in 1986–87, $4.2 million in 1987–88 and $31.9 million for 1988–89.

National Community Health Program—NCHP

The Commonwealth provides funding through the NCHP in order to promote community health-care principles by encouraging self-help and advocacy groups at the national level.

Fifty-nine projects received funding under the NCHP in 1988–89. The largest of these projects is the Family Medicine Program (FMP) of the Royal Australian College of General Practitioners, which provides vocational training for young doctors who intend to enter general practice. The trainees receive their training through attachments to participating private general practitioner practices and by attendance at educational events organised by the FMP.

The other national projects include national coordinating secretariats of voluntary non-profit organisations, health advocacy organisations and specific health-related projects which have national application.

Funds appropriated for this program amounted to $14.0 million in 1988–89.

National Health Promotion Program—NHPP

Under the NHPP the Commonwealth provides funding for projects which develop and promote effective strategies for health promotion and disease prevention, focusing on specific risk factors and different population groups.

Projects funded under the NHPP must be national in application and focus and be consistent with national health goals. Projects funded in 1988–89 included the Healthy Cities Pilot Project coordinated by the Australian Community Health Association, the Health Education and Promotion System (a data-base of health promotion programs) and numerous projects which focus on asthma, heart disease, cholesterol levels and hypertension in the workplace.

Funds appropriated for this program during 1988–89 amounted to $2.5 million including $1 million for the National Campaign Against Measles which promotes immunisation.

Health for All Australians

Following the Health for All Australians report, the National Better Health Program was established in late 1988. It is the most comprehensive health promotion project ever undertaken in Australia. The four year program has an allocation of $41 million and is jointly funded by the Commonwealth and States/Territories.

The Program is initially concerned with five priority areas:

- hypertension;
- nutrition;
- health of the elderly;
- injury;
- preventable cancer.

Projects to be funded in the Program will be based on the recommendations of Project Planning Teams which were appointed in each priority area. Community orientation is the focus of these projects.

Women's Health

The National Women's Health Policy was developed as an initiative within the context of the National Agenda for Women, with a substantial contribution by women through national consultations and over 300 submissions. The report was approved in principle by all Australian health ministers in March 1989 and launched by the Prime Minister in April.

Included in the Women's Health Package announced in the August Budget was a Commonwealth allocation of $16.86 million ($33.72 million when cost-shared with States and Territories) for the establishment of the National Women's Health Program which was a major recommendation arising from the National Women's Health Policy.

Program funding over four years will provide for:

- establishment of approximately 28 multidisciplinary women's community health centres/services nationally;
- development of an education/information strategy relating to the seven priority health issues identified by women during national consultations; and
- expansion of continuing education programs for health care professionals and development of a curriculum module on the health of young women, for use by teachers.

Other grants and subsidies

The Commonwealth Government gives financial assistance to certain organisations concerned with public health. Examples of organisations included in this category are outlined below.

The Royal Flying Doctor Service

A non-profit organisation providing medical services in remote areas of Australia. It is distinct from, but coordinates with, the Aerial Medical Service which, while formerly operated by the Commonwealth Department of Community Services and Health, has been operated by the Northern Territory Government since 1 January 1979. The Royal Flying Doctor Service is financed mostly from donations and government contributions. For the year ended 30 June 1989 the Commonwealth Government paid grants totalling $8.7 million towards operational costs and assistance of $3.0 million towards an approved program of capital expenditure.

The Red Cross Blood Transfusion Service

This Service is conducted by the Australian Red Cross Society throughout Australia. The operating costs of the Service in the States and the Northern Territory are met by the State or Territory Government paying 60 per cent, the Society 5 per cent of net operating cost or 10 per cent of donations, whichever is the lesser, and the Commonwealth Government meeting the balance. Approved capital expenditure by the Service is shared on a dollar for dollar basis with the State and Northern Territory governments. Commonwealth Government expenditure for all States and Territories during 1988–89 was $20.5 million being $18.2 million for operating costs and $2.3 million for capital costs.

The National Heart Foundation of Australia

The Foundation is a voluntary organisation, supported almost entirely by public donations, established with the objective of reducing the toll of heart disease in Australia. It approaches this objective by programs sponsoring research in cardiovascular disease, community and professional education directed to prevention, treatment and rehabilitation of heart disease and community service programs including rehabilitation of heart patients, risk assessment clinics and surveys and documentation of various aspects of heart disease and treatment of heart disease in Australia. The Foundation's income in 1988 was $14.8 million of which $12.2 million was from public donations and bequests. Commonwealth, State and semi-government authorities made grants of $0.2 million for specific projects conducted by the Foundation. Since the inception of the Foundation, research has been a major function and a total of $4.3 million was expended in 1988 in grants to university departments, hospitals and research institutes and for fellowships tenable in Australia and overseas. It is notable however that with increasing opportunities for prevention and control of heart disease, the Foundation's education and community service activities are increasing significantly. In 1988 the expenditure on research, education and community service totalled $5.1 million.

The World Health Organization—WHO

WHO is a specialised agency of the United Nations having as its objective the attainment by all peoples of the highest level of health. Australia is assigned to the Western Pacific Region, the headquarters of which is at Manila, and is represented annually at both the World Health Assembly in Geneva and the Regional Committee Meeting in Manila. Australia's contribution to WHO for 1989 was $5.7 million.

The International Agency for Research on Cancer—IARC

The IARC was established in 1965 within the framework of the World Health Organization. The headquarters of the Agency are located in Lyon, France. The objectives and functions of the Agency are to provide for planning, promoting and developing research in all phases of the causation, treatment and prevention of cancer. Australia's contribution to the IARC for 1989 was $0.8 million.

National Health Services and Advisory Organisations

Australian Health Ministers' Conference and the Australian Health Ministers' Advisory Council

The Australian Health Ministers' Conference (AHMC) and its advisory body, the Australian Health Ministers' Advisory Council (AHMAC) provide a mechanism for Commonwealth, State and Territory Governments to discuss matters of mutual interest concerning health policy, services and programs. Neither the Conference nor the Council has statutory powers, and decisions are reached on the basis of consensus. Their constitution rests on the formal agreement by the Commonwealth, State and Territory governments of the membership and functions.

The AHMC comprises the Commonwealth, State and Territory Health Ministers. Other Commonwealth Ministers may be invited to speak on items relevant to their portfolio. The New Zealand and Papua New Guinea Health Ministers may attend meetings as observers.

AHMAC comprises the head and the option of one other senior officer from the Commonwealth, State and Territory health authorities and the Department of Veterans' Affairs. The chairperson of the National Health and Medical Research Council, and the Director of the Australian Institute of Health may attend AHMAC meetings as observers. AHMAC was established by the April 1986 AHMC to replace the Standing Committee of Health Ministers (SCOHM) and the Australian Health Services Council (AHSC).

AHMAC may establish standing committees to serve on-going matters of concern to the Council and the Australian Health Ministers' Conference and ad hoc working parties or subcommittees to investigate and report on specific issues or aspects. The standing committees include the Intergovernmental Committee on Aids, the National Coordination Committee on Therapeutic Goods, the Super Speciality Services Subcommittee, the Subcommittee on Women and Health and the Subcommittee on Breast and Cervical Cancers.

Health services organisations

The Commonwealth Serum Laboratories Commission—CSL

CSL produces pharmaceutical products for human and veterinary use and is one of Australia's foremost scientific institutes. The Commission's main function is to produce and sell prescribed pharmaceutical products used for therapeutic purposes and to ensure the supply of essential pharmaceutical products in accordance with defined national health needs. The Commission's functions also include research and development relating to many kinds of human and veterinary diseases covering the fields of bacteriology, biochemistry, immunology and virology. The Commission's laboratories and central administration are located at Parkville, Victoria, with storage and distribution facilities in all States.

For over seventy years, CSL has been Australia's chief supplier of biological medicines, insulins, vaccines, human blood fractions, diagnostic reagents and an increasing range of veterinary pharmaceutical products needed by Australia's sheep, cattle, pig and poultry industries. The CSL Act now allows CSL to produce, buy, import, supply, sell or export prescribed pharmaceutical products (either of a biological or non-biological nature). It is expected that CSL will be incorporated as a company by legislation scheduled to come into effect in March 1990.

The Australian Radiation Laboratory

The Laboratory is concerned with the development of national policy relating to radiation health and:

- formulates policy by developing codes of practice and by undertaking other regulatory, compliance, surveillance and advisory responsibilities at the national level with respect to public and occupational health aspects of radiation;
- maintains national standards of radiation exposure and radioactivity;
- provides advice in relation to the quality and use of radiopharmaceutical substances;
- in support of the above activities, undertakes research and development in the fields of ionising and non-ionising radiations which have implications for public and occupational health.

The National Acoustic Laboratories

The National Acoustic Laboratories (NAL) provide free audiological services and hearing aids for eligible people with a hearing impairment. NAL fits almost 70 per cent of all hearing aids in Australia.

Eligible people include holders of Pensioner Health Benefits cards and their dependants, all persons under 21 years of age, Veterans' Affairs clients, referred clients of the Commonwealth Rehabilitation Service and certain compensation claimants. Services are delivered through a network of 43 NAL Hearing Centres across Australia, plus some 65 visiting centres in rural and remote areas.

The NAL Central Laboratory at Chatswood provides equipment and training and develops procedures to support the delivery of services through the Hearing Centres. It also conducts noise and audiological research, evaluates new devices and techniques, advises on measures to prevent hearing loss and reports on environmental and occupational noise problems.

The Therapeutic Goods Administration Laboratories —TGAL

The TGAL (formerly the National Biological Standards Laboratory) is part of the Therapeutic Goods Administration of the Commonwealth Department of Community Services and Health. TGAL is comprised of the Antibiotics, Microbiology, Pharmacology, Pharmaceutical Chemistry, Virology and Animal Service sections.

TGAL monitors the quality, safety and efficacy of biological and pharmaceutical products and selected therapeutic devices available for use in Australia. The major activities are analysis of therapeutic goods for acceptable quality, developmental research associated with new or improved testing methods and the development of standards, evaluation of the manufacturing aspects of applications for marketing selected therapeutic goods, and provision of relevant advice and training to governments, industry and international organisations.

Commonwealth Government Health Advisory Organisations

The National Health and Medical Research Council—NHMRC

The NHMRC advises the Commonwealth Government and State governments on matters of public health administration and the development of standards for food, pesticides, agricultural chemicals, water and air for consideration by the States for inclusion in their legislation. It also advises the Commonwealth Government and State governments on matters concerning the health of the public and on the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition. The Council advises the Commonwealth Minister for Community Services and Health on medical research and on the application of funds from the Medical Research Endowment Fund which provides assistance to Commonwealth Government departments, State departments, universities, institutions and persons for the purposes of medical research and for the training of persons in medical research. The Commonwealth Government makes annual appropriations to the fund. Expenditure for 1988–89 was $78.2 million. The Commonwealth Government also appropriated $2.4 million to the newly established Public Health Research and Development Committee for disbursement to priority research areas. The secretariat for the Council and its Committees is provided by the Commonwealth Department of Community Services and Health and is located in Canberra.

The Australian Institute of Health—AIH

The Australian Institute of Health was established as a statutory body within the Commonwealth Community Services and Health portfolio in 1987. It is a Commonwealth health statistics and research agency which, as part of its national role, also provides support to the States and Territories in these areas primarily through the Australian Health Ministers' Advisory Council (AHMAC).

The Institute is governed by a 12-member Board including nominees of the Minister for Community Services and Health, AHMAC, the Public Health Association of Australia, and the Consumers' Health Forum of Australia. Other members are the Australian Statistician, the Secretary of the Department of Community Services and Health and the Director of the Institute.

The mission of the Institute is to contribute to the improvement of the health of Australians and to the efficient use of resources in the provision of health services, including those directed at health promotion and illness prevention, by pursuing its legislative mandate to:

- collect and assist in the production of health related information and statistics;
- conduct and promote research into the health of Australians and their health services;
- undertake studies into the provision and effectiveness of health services and technologies; and
- make recommendations on the prevention and treatment of diseases and the improvement and promotion of health and health awareness of the people of Australia.

There are four major components to the Institute—Health Services Division, Health Status Division, Health Technology Unit and Corporate Services. A small Secretariat provides support for the Board and Institute Committees and coordinates liaison with other organisations.

Two external units are currently funded by the Institute—the National Perinatal Statistics Unit at the University of Sydney and the Dental Statistics and Research Unit at the University of Adelaide.

In investigating and documenting Australia's health services and programs, the Health Services Division mainly focuses on the traditional matters relating to health services—costs, use, access, facilities, resources and efficiency. It is also examining quality of care, the effects of ageing on the demand for health services, and the changing demands for services over the past 10 to 15 years. The Division's work includes the development of statistical and information systems on, and research into, the provision and use of health services.

The Division's major activities include:

- the development of databases to describe components of the health services system. These include health expenditure, the health labour force, use and costs of hospitals and other health related institutions, medical service use. The production of comparable statistics on the use, costs, revenues and staffing levels of various institutional health services will be assisted by the development of a national minimum data set;
- the development of models of health services demand and supply, including models to project the health labour force and to project the demand for hospitals services as the population ages;
- the development of measures of casemix—the types of cases treated in acute hospitals—and the dissemination of ideas and research related to casemix; and
- organisation of workshops on issues in the evaluation of health services, and other activities to promote research into health services.

The Health Technology Unit provides the major Australian focus for health technology assessment. Partly through its support for the National Health Technology Advisory Panel, and partly through its own work, the Unit promotes, undertakes and coordinates assessments of new and established health care technologies, paying particular attention to their costs and effectiveness. It publishes assessments and reviews of health care technology, carried out by or in association with the Unit, and collects appropriate statistics.

The Unit also provides support for the Super Speciality Services Subcommittee of AHMAC, a body responsible for the preparation of guidelines on certain expensive or specialised services.

Major projects include:

- an assessment of magnetic resonance imaging (MRI). The Unit is analysing data collected from five MRI units installed in teaching hospitals in Australia;
- the preparation of reports on technologies with major implications for health care. At present, studies are in progress on developments in high energy radiotherapy, coronary and peripheral angioplasty, cardiac imaging, renal stone therapy, dynamometry, bone mineral assessment and thermography;
- trials of the use of dry-chemistry pathology equipment in general practice and of biliary lithotripsy; and
- the preparation of guidelines on the management of spinal trauma, renal dialysis, refractory epilepsy and cardiac surgery.

The Health Status Division is responsible for improving statistical and related information on the nation's health, including the development of databases, and for monitoring, investigating and reporting on the health of the Australian people. It collates and analyses national data, with special attention to identifying differences in health status between different segments of the population.

Major projects include:

- participation in the monitoring and data components of the National Better Health Program, a cooperative Commonwealth–State/Territory health promotion and disease prevention program;
- the Risk Factor Prevalence Survey, 1989, in conjunction with the National Heart Foundation and the Department of Community Services and Health;
- collection and dissemination of information on Aboriginal health, and the development of national Aboriginal health statistics;
- investigation of the feasibility and cost-effectiveness of providing a comprehensive, coordinated nation-wide program of breast and cervical cancer screening;

- development of the National Death Index, a mortality database, the National Cancer Statistics Clearinghouse and an asthma-related deaths collection; and
- operation of a national nosology reference centre, which is the designated point of contact with the World Health Organization (WHO) on matters relating to the classification of diseases.

The Institute is also undertaking two special projects:

- an investigation of a possible cluster of cancer cases in a CSIRO workplace; and
- an epidemiological study of the carcinogenicity of the antimalarial agent, dapsone, in Australian Vietnam veterans.

The National Perinatal Statistics Unit, based at the University of Sydney, collects national data on perinatal health and mortality and on congenital anomalies, and conducts epidemiological studies in this field. The Unit's activities include analytical studies of selected congenital malformations and Caesarian births, and the development of a national perinatal data system and a national congenital malformation monitoring system. It also operates a register of IVF (in vitro fertilisation) pregnancies.

The Dental Statistics and Research Unit at the University of Adelaide is developing information and statistics on the dental labour force and on dental health status. The Unit is currently negotiating with State and Territory Dental Registration Boards to gain access to relevant information.

The National Occupational Health and Safety Commission—NOHSC

The National Commission (known by its working title as *Worksafe Australia*) is a tripartite body comprising representatives of Commonwealth, State and Territory governments, and peak employee and employer bodies.

It is a statutory authority established by the Commonwealth Government to develop, facilitate and implement national occupational health and safety strategies and to seek the development of common approaches to occupational health and safety legislation.

NOHSC has specified six priority areas for immediate attention and towards which the resources of the organisation are being directed. These issues are occupational back pain, noise-induced hearing loss, management of chemicals used at work, occupational skin disorders, occupational cancer and mechanical equipment injuries.

The activities of the organisation include the following:

- the development of national standards and codes of practice;
- national statistical responsibilities in the field of occupational health and safety;
- multidisciplinary research (including epidemiology, biostatistics, work physiology, occupational psychology, ergonomics and toxicology);
- teaching responsibilities through a Master of Public Health course and several non-academic short courses;
- training and education by the offer of research grants and study awards, and by encouraging the inclusion of intrinsic training in occupational health in tertiary courses;
- the collection, analysis and dissemination of information.

Individuals and groups with specialist knowledge or requirements in the field of occupational health and safety assist through their participation in various committees of the Commission.

The Australian Drug Evaluation Committee

The Committee makes medical and scientific evaluations of such goods for therapeutic use as the Minister for Community Services and Health refers to it for evaluation, and of other goods for therapeutic use which, in the opinion of the Committee, should be so evaluated. It advises the Minister for Community Services and Health as it considers necessary on matters relating to the importation into, and the distribution within, Australia of goods for therapeutic use that have been the subject of evaluation by the Committee. It has the powers to coopt and seek advice from specialist medical colleges and associations and from the medical and allied professions, drug manufacturers and other sources.

The Committee met on six occasions throughout 1988–89. One hundred and six applications for approval for general marketing of new drugs were considered, resulting in 41 recommendations for approval, 62 for rejection and 3 for deferral. There were a further 10 approvals for extensions of therapeutic indications or amended dosage regimens for drugs already on the market.

The Therapeutic Device Evaluation Committee—TDEC

The Committee makes medical and scientific evaluations of therapeutic devices and advises the Minister for Community Services and Health on the importation, production and distribution of therapeutic devices in Australia. It has powers to appoint subcommittees which are usually formed to provide advice on specialised issues and to develop detailed and complex proposals for consideration.

The Committee met three times in 1988–89 and there were three full meetings of subcommittees. Topics of significance were the development of a priority model for device evaluation, intra-uterine contraceptive devices and guidelines for implantable materials. TDEC provides policy advice and oversights the Department's Therapeutic Device Program, which processed 28 full premarket evaluations and 156 through substantial equivalence and reviewed 140 problem reports in 1988–89.

The Therapeutic Goods Committee

The Committee provides advice to the Minister regarding the standards applicable to goods for therapeutic use including the requirements for packaging and labelling of such goods. Members of the Committee are selected for their individual expertise in pharmaceutics, pharmaceutical chemistry, pharmacology, microbiology, virology, veterinary science, medical devices, the manufacture of pharmaceuticals and therapeutic devices and consumer affairs.

National Campaign Against Drug Abuse—NCADA

Australia's NCADA, which was launched in April 1985, is a comprehensive, integrated and on-going campaign, combining the resources of all Australian governments and the community to minimise the harm caused to Australian society by the misuse of drugs, both licit and illicit. A Ministerial Council on Drug Strategy was also established by the Commonwealth, State and Territory governments to establish, fund, maintain and evaluate the Campaign.

The Commonwealth will contribute $30 million in 1989–90, of which $18.8 million is allocated to the States and Territories who match it on a dollar-for-dollar basis, and $11.2 million to national programs and to locally based pilot and demonstration initiatives in the areas of prevention, treatment, early intervention, data management and research. During 1988–89, over 380 separate projects were funded under the Commonwealth–State cost-sharing arrangements. These projects cover such areas as education, training, residential and non-residential treatment, community development and consultancy, research, evaluation and monitoring.

The range of projects involved reflects the diversity of the drug abuse problem in Australia, and the recognition by NCADA of the special needs of groups within the community such as youth, prisoners, Aboriginal people, women, intravenous drug users and people of non-English speaking background.

Information research and evaluation are central parts of the NCADA and activities have included:

- a national media/information campaign, 'The Drug Offensive', which was aimed at increasing public awareness of drugs and provided information on them through campaigns such as the pharmaceutical campaign and the young women and smoking campaign;
- research under the Research on Drug Abuse Program. Since its inception in 1985, the Program has provided over $5.7 million in support of 98 projects;
- the establishment of two national centres for drug research. The Commonwealth in 1989–90 has allocated $1.4 million per annum for the funding of these centres. The Sydney-based centre concentrates its work in the areas of drug treatment and rehabilitation. The Perth-based centre concentrates on research into the prevention of drug abuse;
- the establishment of a National Drug Abuse Data System based on a network of state and Territory data collection agencies;
- support of a major project to improve the teaching of drug and alcohol issues in the undergraduate medical curricula. Funding totalling $0.6 million has been offered to the ten University Medical Schools by the Department of Employment, Education and Training for this project.

Another aspect of the NCADA strategy is aimed at reducing the supply of drugs. A considerable effort has been made in recent years to strengthen the capabilities of Australian federal law enforcement agencies (i.e. the Australian Federal Police (AFP), National Crime Authority (NCA) and the relevant areas of the Australian Customs Service (ACS)). High priority is placed on the investigation of drug trafficking and organised crime. Additional funds have been invested in improved equipment (e.g. computers) and trained personnel.

In addition, the Commonwealth Government has enacted a package of legislation which provides a range of powers to law enforcement agencies which will assist in the investigation and recovery of the proceeds of organised crime, including drug trafficking. This approach is consistent with the policy of targeting those who control finance and benefit from major crime, particularly drug trafficking.

The international aspects of drug trafficking are also being addressed. The experience to date with tracing assets has highlighted the problems that arise where assets are transferred overseas or change hands before a suspect is convicted, thus making it very difficult for law enforcement agencies to recover the profits of criminal activity. The legislative package enables Australia to grant and request mutual assistance in criminal matters and extradition, usually subject to a treaty with the country concerned. The Mutual Assistance Treaties will enhance the ability of Australian and overseas law enforcement agencies to assist each other in the investigation and prosecution of drug crimes and will, in most cases, allow for the tracing, freezing, confiscating and the recovery of the proceeds of drug trafficking.

There are a number of Extradition and Mutual Assistance Treaties already in force. Others will soon be in force, while a third group is being negotiated.

An evaluation of the Campaign was undertaken in 1988 by an independent task force. The evaluation report was positive in its findings, concluding that while the fight against drug abuse must be long term, the Campaign was a 'major success' in its first three years and had made significant progress towards achieving its goals.

The Commonwealth Government has agreed to an extension of funding for another triennium until 1991–92.

Communicable Diseases

Quarantine

The *Quarantine Act 1908* is administered jointly by the Commonwealth Departments of Community Services and Health and Primary Industries and Energy and provides for the taking of measures to prevent the introduction or spread of diseases affecting humans, animals and plants.

Human quarantine

The masters of all ships and aircraft arriving in Australia from overseas are required to notify medical officers acting on behalf of the Commonwealth Department of Community Services and Health of all cases of illness on board at the time of arrival. Passengers or crew members who are believed to be suffering from a quarantinable illness may be examined by Quarantine Medical Officers located at all ports of entry.

The main concern of examining officers is the detection of quarantinable diseases including cholera, yellow fever, plague, typhus fever and viral haemorrhagic fevers. These diseases are not endemic to Australia and it is of great importance to prevent their entry. Sufferers or suspected sufferers may be isolated to prevent the possible spread of the disease.

A valid International Certificate of Vaccination is required of travellers to Australia over one year of age who have been in *yellow fever* infected areas within the past 6 days.

All passengers, whether they arrive by sea or air, are required to give their intended place of residence in Australia so that they may be traced if a case of disease occurs among the passengers on the ship or aircraft by which they travelled to Australia.

Isolation

Under the Quarantine Act, airline and shipping operators are responsible for the expenses of isolation of all travellers who disembark from their aircraft or ship and who fail to meet Australia's vaccination requirements.

Animal quarantine

The Department of Primary Industries and Energy, in consultation with the States and Australia's agricultural and livestock groups, seeks to satisfy the need for animal derived goods and to provide improved genetic material for Australia's livestock industries, while ensuring the maximum practical protection against the entry of exotic livestock diseases.

Importation of animals is restricted to certain species from designated overseas countries whose diseases status and pre-entry quarantine facilities meet Australia's stringent requirements. With few exceptions all imported animals are required to serve a period in quarantine on arrival.

Animal quarantine stations are located at most capital cities. A high security animal quarantine station on the Cocos (Keeling) Islands provides the means whereby the safe importation of a wide range of commercial livestock is facilitated.

Measures to prevent the entry of exotic diseases are also applied through the rigourous screening of applications to import biological materials and animal products and through inspection and treatment procedures on arrival.

Plant quarantine

Australia is free of numerous plant pests and diseases that occur elsewhere in the world. The importation into Australia of plant material is therefore subject to strict quarantine control.

The Department of Primary Industries and Energy has responsibility, in consultation with the States and agricultural and plant groups, for administering these controls. Some materials are admitted only under certain conditions while others are prohibited altogether.

However, the facilitation of safe importation is considered to be the best available means of reducing pest and disease risk involved in illegal importation.

The general objective is to keep out of the country any pest or disease which could cause serious economic losses to Australia's agriculture, horticulture or forests. Measures to prevent the entry of unwanted exotic plant pests and diseases involve careful screening of applications to import plant material and inspection and treatment procedures on arrival.

Notifiable diseases

Although State and Territory health authorities are responsible for the prevention and control of infectious diseases within their areas of jurisdiction, certain powers and responsibility may be delegated to local authorities within each State. These usually involve such activities as personal health services, environmental sanitation and local communicable disease control.

The Commonwealth Department of Community Services and Health receives notification figures from the States and Territories on a monthly basis which are published in *Communicable Diseases Intelligence*. The national totals for the year are published in the annual report of the Department, and are reproduced in the following tables.

Not all diseases are notifiable in all States and Territories and factors such as the availability of medical and diagnostic services, varying degrees of attention to disease notification and the source of notifications (i.e. whether notified by medical practitioners or by diagnostic laboratories), and the enforcement and follow-up of notifications by health authorities, affect both the completeness and the comparability of the figures between States and from year to year.

NOTIFIABLE DISEASES (a), NUMBER OF CASES NOTIFIED, 1988

Disease	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Amoebiasis	8	6	2	38	4	—	2	—	60
Ankylostomiasis	—	—	1	17	15	2	n.a.	—	35
Arbovirus infection	136	150	511	8	63	—	29	—	897
Brucellosis	1	—	13	1	1	—	—	—	16
Campylobacter infection	1,875	n.a.	n.a.	1,560	372	n.a.	265	10	4,082
Chancroid	—	n.a.	1	n.a.	2	n.a.	—	1	4
Cholera	1	—	—	—	1	—	—	—	2
Congenital rubella syndrome	—	—	2	—	—	n.a.	—	—	2
Diphtheria	1	—	—	—	—	—	60	—	61
Donovanosis	1	n.a.	62	n.a.	46	—	24	—	133
Giardiasis	497	n.a.	n.a.	967	284	n.a.	n.a.	5	1,753
Genital herpes	954	227	852	n.a.	n.a.	n.a.	34	62	2,129
Gonococcal ophthalmia neonatorum	—	n.a.	—	—	n.a.	n.a.	3	n.a.	3
Gonorrhoea	746	629	831	278	979	28	569	19	4,079
Hepatitis A (infectious)	89	65	87	101	231	3	23	1	600
Hepatitis B (serum)	388	185	555	43	443	28	23	18	1,683
Hepatitis—unspecified	15	16	24	11	n.a.	n.a.	1	2	69
Hydatid disease	5	1	3	2	1	2	—	1	15
Legionnaires disease	26	8	4	26	2	n.a.	1	n.a.	67
Leprosy	7	—	3	1	5	—	4	—	20
Leptospirosis	36	25	22	6	4	11	—	—	104
Malaria	84	65	332	30	42	2	20	26	601
Measles	43	n.a.	174	14	16	n.a.	n.a.	1	248
Meningococcal infections	18	20	21	29	13	n.a.	23	2	126
Non-specific urethritis	3,136	n.a.	1	n.a.	n.a.	n.a.	73	n.a.	3,210
Ornithosis	5	5	1	8	—	—	—	2	21
Pertussis (whooping cough)	25	40	n.a.	57	31	n.a.	—	—	153
Q-Fever	232	1	167	21	3	—	—	—	424
Salmonella infections	1,048	179	1,116	398	366	113	240	24	3,484
Shigella infections	99	16	152	53	76	3	181	1	581
Syphilis	1,158	65	939	92	194	2	598	8	3,056
Tetanus	1	—	1	2	1	—	—	—	5
Trachoma	—	n.a.	n.a.	130	138	—	n.a.	—	268
Tuberculosis (all forms)	406	307	167	95	127	19	26	18	1,165
Typhoid fever	25	8	4	—	3	—	—	1	40
Typhus (all forms)	—	1	3	1	3	—	—	—	8
Vibrio parahaemolyticus infections	1	n.a.	n.a.	—	1	n.a.	—	n.a.	2
Yersinia infections	124	—	n.a.	44	3	n.a.	1	n.a.	172

(a) There were no cases of anthrax, lassa fever, marburg disease, plague, rabies, smallpox or yellow fever.

NOTIFIABLE DISEASES, NUMBER OF CASES NOTIFIED: AUSTRALIA

Disease	*1984*	*1985*	*1986*	*1987*	*1988*
Amoebiasis	46	87	54	58	60
Ankylostomiasis	75	43	40	57	35
Anthrax	—	1	—	1	—
Arbovirus infection	1,577	660	1,414	1,085	897
Brucellosis	15	22	12	12	16
Campylobacter infection	1,779	2,343	2,922	2,923	4,082
Chancroid	14	5	12	4	4
Cholera	—	2	—	—	2
Congenital rubella syndrome	1	3	2	3	2
Diphtheria	—	17	44	32	61
Donovanosis	201	73	185	148	133
Giardiasis	1,025	1,091	1,316	1,508	1,753
Genital herpes	1,330	1,707	2,136	2,359	2,129
Gonococcal Ophthalmia neonatorum	9	14	5	5	3
Gonorrhoea	8,894	7,605	6,585	4,979	4,079
Hepatitis A (infectious)	674	848	1,685	715	600
Hepatitis B (serum)	1,559	1,645	1,766	1,605	1,683
Hepatitis—unspecified	134	122	136	131	69
Hydatid disease	9	13	14	17	15
Legionnaires disease	13	28	68	96	67
Leprosy	28	38	27	31	20
Leptospirosis	227	185	179	133	104
Lymphogranuloma venereum	2	5	4	—	—
Malaria	640	421	696	574	601
Measles *(a)*	—	—	—	—	248
Meningococcal infections	59	53	51	96	126
Non-specific urethritis	4,383	4,872	8,063	7,384	3,210
Ornithosis	42	17	43	13	21
Pertussis (whooping cough)	261	587	601	291	153
Poliomyelitis	—	—	1	—	—
Q-Fever *(b)*	262	202	367	355	424
Salmonella infections	2,092	2,668	2,494	2,739	3,484
Shigella infections	420	734	833	586	581
Syphilis	3,323	3,523	3,594	3,190	3,056
Tetanus	7	11	5	5	5
Trachoma	4	63	233	274	268
Tuberculosis (all forms)	1,299	1,088	1,041	686	1,165
Typhoid fever	50	31	45	47	40
Typhus (all forms)	8	10	11	9	8
Vibrio parahaemolyticus infections	9	4	6	6	2
Yersinia infections	8	60	78	122	172

(a) Not notifiable until 1988. *(b)* Not notifiable in all States and Territories until 1986.
Source: Commonwealth Department of Community Services and Health

Childhood immunisation

Immunisation is recommended for all Australian children as a protection against childhood diseases such as poliomyelitis, diphtheria, measles, mumps, tetanus and whooping cough. Immunisation programs are implemented in all States and Territories of Australia. The childhood immunisation schedule, as recommended by the National Health and Medical Research Council, is available from the Commonwealth Department of Community Services and Health.

A new measles/mumps/rubella (MMR) vaccine has been introduced to replace the measles/mumps vaccine for all children aged 12 to 15 months. Rubella immunisation remains routinely offered to all females between their 10th and 15th birthdays through the Schoolgirl Rubella Immunisation programs, in addition to their MMR immunisation at 12 to 15 months.

Hepatitis B vaccine is currently offered to neonates born to mothers belonging to community groups in which the carrier rate for Hepatitis B is estimated to exceed 5 per cent.

Acquired Immune Deficiency Syndrome—AIDS

The National HIV/AIDS Strategy was launched in August 1989. The Strategy outlines the direction of AIDS policy and the specific programs that will be put in place to manage the epidemic into the 1990s. It was developed following extensive national community consultations and release of the Policy Discussion Paper *AIDS: A Time to Care, A Time to Act—Towards a Strategy for Australians* in November 1988.

The Strategy is coordinated at the national level by the Aids Policy and Programs Branch of the Commonwealth Department of Community Services and Health. The Branch has the responsibility for coordinating and evaluating community AIDS projects, assessing the funding of these initiatives, and undertaking liaison with a wide range of Australian and overseas agencies. In addition, the Department closely monitors medical and scientific developments in relation to the disease. It also provides executive support for national AIDS Committees which have been established to consider and advise on all aspects of AIDS.

These committees include:

- the Australian National Council on AIDS (ANCA), established in March 1988 to combine the functions of the former AIDS Task Force and NACAIDS, to advise the Commonwealth Minister for Community Services and Health on all aspects of AIDS;
- the National AIDS Forum, also established in March 1988, to ensure that ANCA and the Minister maintain close communication with, and receive advice from, individuals and organisations involved in the fight against AIDS;
- the Parliamentary Liaison Group on AIDS, established to bring together Federal parliamentarians to enable them to keep abreast of AIDS issues and to provide advice on community attitudes to the disease; and
- the Intergovernmental Committee on AIDS, established to bring together the States and the Commonwealth to discuss AIDS policy and financial matters.

In 1988–89 the Commonwealth made available over $42.4 million for the fight against AIDS. This expenditure was divided between the National AIDS Program ($14.5 million), the AIDS Matched Funding Program ($12.7 million) and Medicare payments to the States ($15.1 million).

The Commonwealth has allocated approximately $59.7 million to the AIDS program in 1989–90. Of this, $18 million is earmarked for the National AIDS Program and $19.4 million will be made available under the Matched Funding Program. Under the Matched Funding Program, the Commonwealth has continued assistance to maintain the safety of our blood supply by supporting the screening of blood transfusion services throughout Australia. A further $21.7 million will be paid to the States under Medicare arrangements for the treatment of HIV/AIDS in public hospitals.

Activities under the National AIDS Program included research, the national AIDS education campaign, grants to community-based organisations, exchange of information both within Australia and internationally and support of national AIDS advisory committees.

Brochures and posters, as well as radio and television commercials, were produced as part of the education campaign. Specific materials were developed for youth, intravenous drug users and Aboriginal communities.

A major AIDS information campaign for people from non-English speaking backgrounds was launched in early August 1989 by the Minister. The campaign, conducted in 16 community languages, is one of the few national advertising campaigns designed specifically for ethnic communities. The impetus for the campaign was the lack of accurate AIDS information available to people with a limited proficiency in English.

Educational material on AIDS prevention was also produced and distributed to international travellers.

These national education activities were reinforced by grants to a range of community organisations for AIDS education projects. Australia has received international recognition for its innovative use of community organisations as peer educators.

During 1988–89, the research activities of the National Centres in HIV Virology Research and Epidemiology and Clinical Research (previously known as the Special Units) continued, and a number of grants were awarded to both individuals and groups for biomedical and behavioural research into AIDS. The Special Unit in Epidemiology continues its research into the clinical aspects of the drug Azidothymidine (AZT).

A third Unit, the National Centre in HIV Social Research, is to be established in 1989–90. The purpose of this unit will be to conduct and coordinate research into the effects of the epidemic, to identify educational and training needs, and to evaluate specific social aspects of transmission and the impact of education and prevention programs and policy initiatives.

Funding is also provided to the National Reference Laboratory for evaluation of new diagnostic kits for HIV infection and quality control of HIV testing programs in Australia.

On the international front, Australia will provide assistance to countries in the western Pacific region and will contribute a total of $2 million in grants to the WHO Global Program on AIDS.

REPORTED AIDS CASES TO 31 OCTOBER 1989

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Number of cases—									
Males	923	317	98	51	70	4	2	16	1,481
Females	30	7	4	2	4	1	—	—	48
Persons	953	324	102	53	74	5	2	16	1,529
Known deaths—									
Number	546	143	63	21	28	2	1	10	814
Per cent of cases	57.3	44.1	61.8	39.6	37.8	40.0	50.0	62.5	53.2

Source: Commonwealth Department of Community Services and Health.

CASES OF AIDS AND KNOWN DEATHS FROM AIDS BY TRANSMISSION CATEGORY, AUSTRALIA, TO 31 OCTOBER 1989

	Cases				*Known deaths*			
Transmission category—	*Males*	*Females*	*Total*	*Per cent of all cases*	*Males*	*Females*	*Total*	*Per cent of cases by category*
Homo-Bisexual	1,352	0	1,352	88.4	711	0	711	52.6
Heterosexual IVDU *(a)*	10	8	18	1.2	4	1	5	27.8
Homo-Bisexual IVDU *(a)*	42	0	42	2.7	20	0	20	47.6
Haemophilia	17	0	17	1.1	8	0	8	47.1
Heterosexual contact	12	12	24	1.6	7	3	10	41.7
Blood transfusion *(b)*	36	24	60	3.9	28	23	51	85.0
Other	8	2	10	0.7	4	1	5	50.0
Under investigation	4	2	6	0.4	4	0	4	66.7
Total	**1,481**	**48**	**1,529**	**100.0**	**786**	**28**	**814**	**n.a.**

(a) Intravenous drug user. *(b)* Includes receipt of blood products or tissue.
Source: Commonwealth Department of community Services and Health.

Hospitals

Repatriation hospitals

The Department of Veterans' Affairs administers the only national hospital system in Australia, consisting of six acute-care Repatriation hospitals (one in each State), three auxiliary hospitals, and the Anzac Hostel in Brighton, Victoria.

A broad range of in-patient and out-patient services is available for the care and treatment of eligible veterans and their dependants. Patients from the general community may also receive treatment at Repatriation hospitals provided bed capacity is available after the needs of entitled veterans have been met and the hospital facilities are appropriate to the treatment required.

The Department of Veterans' Affairs has fostered the development of rationalised treatment arrangements with State health authorities to avoid the unnecessary duplication of hospital facilities and services. Repatriation General Hospitals (RGHs) are affiliated with a university and learned colleges for the education of medical and allied health professional staff.

Veterans may also receive treatment in non-departmental public and private hospitals and nursing homes at the Department's expense in certain circumstances. Entitled patients with psychiatric conditions requiring custodial care are, by agreement with the State governments, accommodated at the expense of the Department in mental hospitals administered by State authorities.

The increasing age and frailty of the entitled veteran population has led the government to undertake a series of reviews of the Repatriation Hospital System. These reviews have resulted in a proposal to integrate Repatriation General Hospitals into the State health systems by 1 July 1995, subject to agreement by the ex service community, staff associations and State governments on issues such as veteran access to hospitals after transfer and the maintenance of staff rights and conditions of service.

Integration will allow veterans and war widows to be treated at local public or private hospitals. These arrangements will remove the need for veterans, families and friends to travel to the central RGH and will result in better local coordination of treatment.

Details of patients, staff and expenditure on Repatriation institutions and other medical services are given in Chapter 8, Social Security and Welfare.

Mental health institutions

The presentation of meaningful statistics of mental health services has become increasingly difficult because of a shift since the 1970s away from institutional care of mental patients. The emphasis has shifted from institutions for care of patients certified insane to a range of mental health services provided for in-patients and out-patients at psychiatric hospitals, admission and reception centres, day hospitals, out-patient clinics, training centres, homes for the mentally ill and geriatric patients, psychiatric units in general hospitals, and the like. Statistics relating to mental health institutions are available from relevant agencies in most States.

A National Minimum Dataset for Institutional Care is presently being developed by the Australian Institute of Health through the Australian Health Ministers' Advisory Council.

Hospital statistics

A major factor in the cost of health care in Australia is hospital treatment of patients. Attempts to measure the number of in-patients treated and bed-days involved for each disease or injury have been going on for some years, but as coverage is incomplete it is not possible to present national statistics. Figures for New South Wales, Victoria, Queensland, and South Australia however, are published in the ABS publications *Hospital In-patients New South Wales* (4306.1), *Public Hospital Morbidity Victoria* (4301.2), *Hospital Morbidity Queensland* (4303.3) and *In-patient Separations from Recognised Hospitals South Australia* (4308.4) (ABS/SAHC). Statistics for Western Australia, the Northern Territory and the Australian Capital Territory are available from the relevant State and Territory health authorities.

Employment Injuries

Annual statistics on employment injuries are collected and published by most ABS State Offices. However, these statistics rely upon administrative by-product data generated under the differing provisions of workers' compensation legislation in each State. Legislative differences, coverage and reporting deficiencies of the by-product source data and the absence of comparable data for the Commonwealth employee sector have to date prevented the production of national employment injuries statistics.

The collection of statistics on occupational health and safety has undergone significant change following the Commonwealth Government's establishment of the National Occupational Health and Safety Commission (Worksafe Australia). This body is responsible for the facilitation and coordination of action, in collaboration with unions, business and State governments, aimed at improving working conditions and reducing the incidence and severity of injury and illness in the workplace. The overall objectives of Worksafe Australia include plans to develop and implement improved systems for the recording and collection of statistical and other information. To this end, Worksafe Australia released a report 'National Data Set for Compensation-Based Statistics, April 1987' which proposed the collection of a standardised set of data items with associated concepts, classifications, etc. It is proposed that once this National Data Set is fully implemented by both the private and public sectors, Worksafe will commence publication of national employment injury statistics.

In 1989 Worksafe Australia released the results of a study of work-related fatalities which occurred during the three years 1982–84. The study was based on a detailed examination of coroners' files.

Deaths

Information relating to crude death rates and life expectancy is contained in Chapter 6, Demography (Vital Statistics).

Causes of death and perinatal deaths

Causes of death in Australia are classified according to the Ninth Revision of the International Classification of Diseases (ICD) produced by the World Health Organization (WHO). The statistics in the table below show the number of deaths registered during 1988, classified to broad groupings of causes of death. More detailed statistics are contained in *Causes of Death, Australia* (3303.0).

The major causes of death in the community in 1988 were diseases of the circulatory system (accounting for 46.0 per cent), neoplasms (24.9 per cent), diseases of the respiratory system (7.5 per cent) and accidents, poisonings and violence (7.1 per cent). Infectious diseases have caused few deaths in Australia in recent years, largely as a result of quarantine activities, immunisation campaigns and similar measures. In 1988, fewer than one per cent of all deaths were due to such diseases.

The relative importance of groups of causes of death varies with age. Diseases of the circulatory system and neoplasms are predominant in middle and old age. Accidents, particularly those involving motor vehicles, are the primary cause of death in childhood and early adulthood. The majority of infant deaths (54.6 per cent in 1988) occur within 28 days after birth (*see* table on perinatal deaths within this chapter).

CAUSES OF DEATH IN EACH AGE GROUP, AUSTRALIA, 1988

	Age group (years)									
Causes of death	*Under one*	*1–14*	*15–24*	*25–34*	*35–44*	*45–54*	*55–64*	*65–74*	*75 and over*	*Total (a)*
					NUMBER					
Infectious and parasitic diseases	24	37	21	28	41	55	69	138	320	733
Neoplasms	8	130	150	337	1,041	2,445	6,148	9,120	10,506	29,887
Endocrine, nutritional and metabolic diseases and immunity disorders	26	29	30	82	107	140	376	663	1,311	2,764
Diseases of the nervous system and sense organs	36	76	74	63	82	93	194	411	1,128	2,157
Diseases of the circulatory system	9	27	85	216	723	1,855	5,668	13,224	33,271	55,080
Diseases of the respiratory system	47	48	62	79	121	266	1,000	2,409	5,002	9,036
Diseases of the digestive system	5	6	8	64	174	313	631	902	2,049	4,154
Congenital anomalies	559	98	47	28	28	18	37	27	22	864
All other diseases *(b)*	892	18	118	222	138	117	343	766	3,317	5,932
Signs, symptoms and ill-defined conditions	470	20	34	34	25	18	31	18	132	783
Accidents, poisonings and violence	56	473	1,884	1,552	1,046	786	728	686	1,263	8,476
All causes	**2,132**	**962**	**2,513**	**2,705**	**3,526**	**6,106**	**15,225**	**28,364**	**58,321**	**119,866**
					RATE *(c)*					
Infectious and parasitic diseases	10	1	1	1	2	3	5	13	46	4
Neoplasms	3	4	5	12	43	146	419	826	1,513	181
Endocrine, nutritional and metabolic diseases and immunity disorders	11	1	1	3	4	8	26	60	189	17
Diseases of the nervous system and sense organs	15	2	3	2	3	6	13	37	162	13
Diseases of the circulatory system	4	1	3	8	30	111	386	1,198	4,791	333
Diseases of the respiratory system	19	1	2	3	5	16	68	218	720	55
Diseases of the digestive system	2	*(d)*	*(d)*	2	7	19	43	82	295	25
Congenital anomalies	227	3	2	1	1	1	3	2	3	5
All other diseases *(b)*	363	1	4	8	6	7	23	69	478	36
Signs, symptoms and ill-defined conditions	191	1	1	1	1	1	2	2	19	5
Accidents, poisonings and violence	23	14	69	57	43	47	50	62	182	51
All causes	**866**	**28**	**92**	**99**	**144**	**366**	**1,037**	**2,570**	**8,397**	**725**

For footnotes *see* end of table.

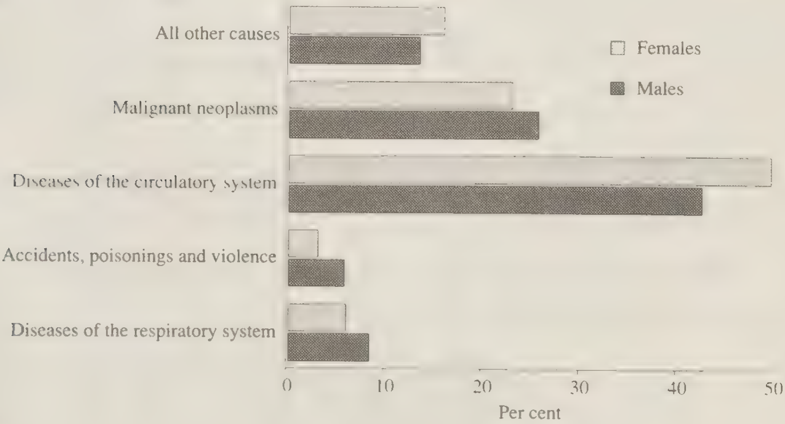
CAUSES OF DEATH IN EACH AGE GROUP, AUSTRALIA, 1988—*continued*

	Age group (years)									
Causes of death	*Under one*	*1–14*	*15–24*	*25–34*	*35–44*	*45–54*	*55–64*	*65–74*	*75 and over*	*Total (a)*
	PERCENTAGE *(e)*									
Infectious and parasitic diseases	1.1	3.8	0.8	1.0	1.2	0.9	0.5	0.5	0.5	0.6
Neoplasms	0.4	13.5	6.0	12.5	29.5	40.0	40.4	32.2	18.0	24.9
Endocrine, nutritional and metabolic diseases and immunity disorders	1.2	3.0	1.2	3.0	3.0	2.3	2.5	2.3	2.2	2.3
Diseases of the nervous system and sense organs	1.7	7.9	2.9	2.3	2.3	1.5	1.3	1.4	1.9	1.8
Diseases of the circulatory system	0.4	2.8	3.4	8.0	20.5	30.4	37.2	46.6	57.0	46.0
Diseases of the respiratory system	2.2	5.0	2.5	2.9	3.4	4.4	6.6	8.5	8.6	7.5
Diseases of the digestive system	0.2	0.6	0.3	2.4	4.9	5.1	4.1	3.2	3.5	3.5
Congenital anomalies	26.2	10.2	1.9	1.0	0.8	0.3	0.2	0.1	*(f)*	0.7
All other diseases *(b)*	41.8	1.9	4.7	8.2	3.9	1.9	2.3	2.7	5.7	4.9
Signs, symptoms and ill-defined conditions	22.0	2.1	1.4	1.3	0.7	0.3	0.2	0.1	0.2	0.7
Accidents, poisonings and violence	2.6	49.2	75.0	57.4	29.7	12.9	4.8	2.4	2.2	7.1
All causes	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Total includes 12 deaths where age is not known. *(b)* Includes 894 deaths from conditions originating in the perinatal period and 1,850 deaths from diseases of the genito–urinary system. *(c)* Rates are per 100,000 of population at risk, except for children under one year of age which are per 100,000 live births registered. *(d)* Less than 0.5. *(e)* Percentage of all deaths within each age group. *(f)* Less than 0.05.

As well as differing by age, the relative significance of certain causes of death also varies by sex, as illustrated below.

ALL DEATHS: PERCENTAGE DISTRIBUTION BY CAUSE, AUSTRALIA, 1988



Perinatal deaths

Since deaths within the first 28 days of life (neonatal deaths) are mainly due to conditions originating before or during birth, and the same conditions can cause fetal death (stillbirth), special tabulations are prepared combining the two. These are termed ‘perinatal deaths’. The statistical definition of perinatal deaths in Australia was amended in 1979 from that previously used, in accordance with a recommendation of the Ninth Revision Conference

(1975) of the World Health Organization 'that national perinatal statistics should include all fetuses and infants delivered weighing at least 500 grams (or, when birth-weight is unavailable, the corresponding gestational age (22 weeks) or body length (25 cm crown–heel)), whether alive or dead'. The table below incorporates a further recommendation of the Conference in that it shows the number of fetal, neonatal and total perinatal deaths in Australia classified by both the main condition in the fetus/infant and the main condition in the mother.

The perinatal death rate for Australia increased marginally from 10.56 per 1,000 total births in 1987 to 10.65 in 1988.

Of the conditions in the child, the three main groups responsible for perinatal deaths were *Hypoxia, birth asphyxia and other respiratory conditions* (37.0 per cent of the total), *Other conditions originating in the perinatal period* (22.4 per cent) and *Congenital anomalies* (21.7 per cent). Forty per cent of all perinatal deaths did not mention any condition in the mother as contributing to the death. Of those deaths where maternal conditions were reported, 28.6 per cent were reported as being due to *Complications of placenta, cord and membranes.*

PERINATAL DEATHS BY CAUSE, AUSTRALIA, 1988

	Number of deaths			*Rate*		
Cause of death	*Fetal*	*Neonatal*	*Perinatal*	*Fetal (a)*	*Neonatal (b)*	*Perinatal (a)*
Conditions in fetus/infant—						
Slow fetal growth, fetal malnutrition and immaturity	113	166	279	0.46	0.67	1.13
Birth trauma	1	28	29	*(c)*	0.11	0.12
Hypoxia, birth asphyxia and other respiratory conditions	641	336	977	2.59	1.37	3.95
Fetal and neonatal haemorrhage	36	71	107	0.15	0.29	0.43
Haemolytic disease of fetus and newborn	9	3	12	0.04	0.01	0.05
Other conditions originating in the perinatal period	501	89	590	2.02	0.36	2.38
Congenital anomalies	160	413	573	0.65	1.85	2.31
Infectious and parasitic diseases	3	4	7	0.01	0.02	0.03
All other causes	9	54	63	0.04	0.22	0.25
Conditions in mother—						
Maternal conditions which may be unrelated to present pregnancy	178	84	262	0.72	0.34	1.06
Maternal complications of pregnancy	153	343	496	0.62	1.39	2.00
Complications of placenta, cord and membranes	585	170	755	2.36	0.69	3.05
Other complications of labour and delivery	28	34	62	0.11	0.14	0.25
No maternal condition reported	529	533	1,062	2.14	2.17	4.29
All causes—						
1988	**1,473**	**1,164**	**2,637**	**5.95**	**4.73**	**10.65**
1987	1,432	1,159	2,591	5.84	4.75	10.56
1986	1,585	1,227	2,812	6.47	5.04	11.48
1985	1,518	1,416	2,934	6.10	5.73	11.79
1984	1,593	1,204	2,797	6.76	5.15	11.87
1983	1,619	1,349	2,968	6.63	5.56	12.20

(a) Per 1,000 births registered (live births and stillbirths) weighing 500 grams or more at birth. *(b)* Per 1,000 live births registered weighing 500 grams or more at birth. *(c)* Less than 0.01

Health-Related Surveys Conducted by the ABS

National Health Surveys

A National Health Survey (NHS) is being conducted throughout the twelve month period October 1989 to September 1990. Previous surveys were conducted in 1977–78 and 1983.

The 1989–90 survey is the first of a new series of five-yearly health surveys providing baseline and trend information on a range of health status indicators and health-related behaviours of Australians. Surveys in this series will comprise a core data set, which will be repeated in successive surveys to provide comparable data over time, and a supplementary component which can be varied from survey to survey to address key health issues of the day.

The 1989–90 NHS is obtaining information about the health status of Australians, their use of health services and facilities, and health-related aspects of their lifestyle. In particular, the survey will provide:

- prevalence data on major recent and long-term illness and conditions suffered;
- information about people's response to illness in terms of the health services used (e.g. hospitalization, doctor consultations) and other actions taken (e.g. medications used, days lost from work or school);
- information about selective preventive health actions taken (e.g. immunization, use of vitamin/mineral supplements, exercise) indicating levels of health risk awareness; and
- prevalence data on lifestyle behaviours such as smoking and alcohol consumption, enabling assessment of the potential heath risks involved.

The design of the survey enables linkages between these elements to be described and analysed. A range of demographic and socioeconomic items will also be available for cross classification with health data, enabling an assessment to be made of the health service needs of groups such as the elderly, migrants and low income families and to identify those with special needs.

Aspects of women's health are addressed in all topics contained in the NHS. In addition, the survey is obtaining information on specific women's health issues in order to:

- determine awareness and use of screening techniques and services for breast and cervical cancer;
- establish the prevalence of women who have had a hysterectomy which will help assess data relating to cervical cancer screening services;
- investigate the relationship between health risk and use of oral contraceptives and IUDs; and
- establish the relationship between breast-feeding and the health of children.

These issues are among the highest priority issues identified in the development of the National Women's Health Policy.

About 21,000 households throughout Australia, covering about 57,000 persons will be included. Preliminary results from the survey are expected to be available early in 1991. In addition to published material the ABS expects to release special tabulations and unidentifiable unit record information in response to user requests.

Health Insurance Surveys

These surveys have been conducted for the years 1979–84, 1986, 1988 and 1990. The 1984 survey covered employed wage and salary earners in capital cities only.

These surveys obtain information on the levels and types of private health insurance cover in the Australian community. Results are published in *Health Insurance Survey, Australia* (4335.0).

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10

EDUCATION

State and Commonwealth Government Responsibilities in Education

The governments of the six Australian States and the two Territories have the major responsibility for education including the administration and substantial funding of primary, secondary and technical and further education. The State governments administer their own systems of primary, secondary and technical and further education through government departments responsible to State Ministers. In Queensland, Tasmania, and the Northern Territory a single Education Department is responsible for these three levels of education. In New South Wales, Victoria, Western Australia, South Australia and the Australian Capital Territory, there is a separate body responsible for technical and further education.

The Commonwealth Government is directly responsible for education services to Norfolk Island, Christmas Island and the Cocos (Keeling) Islands. The Commonwealth Government provides supplementary finance to the States, and is responsible for the total funding of higher education institutions. Apart from its financial role, the Commonwealth is involved in initiating and coordinating policy and in maintaining a national perspective.

Detailed information on the education systems of the States may be found in the respective State *Year Books*. Chapter 27 of this *Year Book* provides details of the situation in the Territories.

Administrative Structure of Education at the National Level

As mentioned above, the Commonwealth Government has direct responsibility for education only in external Territories under the Minister for the Arts, Sport, the Environment, Tourism and Territories. The Commonwealth Government, however, has special responsibilities for Aboriginals and for migrants, as well as the power to provide assistance for students. Moreover, the Commonwealth Government is responsible for international relations in education. In July 1987 the Department of Employment, Education and Training was created by amalgamating the former Department of Education, elements of the former Department of Employment and Industrial Relations, parts of the Department of Science and also the Office of Youth Affairs (from the Department of Prime Minister and Cabinet). The education responsibilities entail grants to schools, student assistance, overseas students, awards and exchanges, tertiary education, language policy, educational research and statistics, publications, Aboriginal education, multicultural education, Asian and women's studies, and education and the arts. The Department liaises with the media and community groups and produces a range of publications relating to education in Australia. Selected publications are listed at the end of this chapter.

The Australian Constitution empowers the Commonwealth Government to make grants to the States and to place conditions upon such grants.

The *National Board of Employment, Education and Training (NBEET)* was established under the *Employment, Education and Training Act 1988*. Proclaimed on 1 July 1988 it is the mechanism for providing coordinated and independent advice to the Government on employment, education, training and research in the context of the Government's broad social, economic and resource policies.

In establishing the Board the Government abolished the Commonwealth Schools Commission and the Commonwealth Tertiary Education Commission and transferred responsibility for program delivery, previously undertaken by the Commissions, to the Department of Employment, Education and Training. The Board provides for input from providers of education and training, and from business, industry and union organisations, as well as interested bodies in the community. It is assisted by four Councils.

- The *Schools Council a*dvises on the Commonwealth's policies and programs relating to schools, including the general development of primary and secondary education.
- The *Higher Education Council* advises on the general development of higher education in Australia, priorities and arrangements for the funding of higher education institutions and overseas marketing of Australian higher education products.
- The *Employment and Skills Formation Council* advises on technical and further education, employment and skills formation policies, programs and services, and the promotion of effective training through business and industry.
- The *Australian Research Council's* functions are to recommend on payments of research grants and to provide advice to the Board on national research priorities and coordination of research policy.

A *Commonwealth–State Consultative Committ*ee has also been established to advise on State and Territory priorities and to provide a forum for the early resolution of significant Commonwealth–State issues in relevant areas.

In addition to the NBEET arrangements, the Commonwealth Government has also made new advisory arrangements in a number of specific areas including women, Aboriginals, and in language policy and multi-cultural education.

- A *Women's Employment, Education and Training Advisory Group* has been formed to ensure appropriate consideration of issues relating to women's access and participation in employment, education and training, and to enhance links within the portfolio.
- The *National Aboriginal and Torres Strait Islander Education Policy* was launched in October 1989 by the Minister for Employment, Education, and Training, the Hon. John Dawkins MP. Policy objectives will be implemented through the Aboriginal Employment, Education and Training Committee which replaces the National Aboriginal Education Committee.
- The *Australian Advisory Council on Languages and Multicultural Education* has also been established to advise and assist the Government with policy and implementation matters and to provide a forum for discussion on needs and priorities.

Commonwealth Government education authorities also function as coordinating agencies for joint activity by the States and Territories in a number of fields. From 1 January 1990, a Register of Australian Tertiary Education will be established to replace the work done by the Australian Council on Tertiary Awards (ACTA). The Register will list authorities (including institutions) empowered by State, Territory or Commonwealth governments to accredit tertiary award courses. A Register Advisory Committee will also be established under the auspices of the Australian Education Council.

A number of bodies at the national level have an important coordinating, planning or funding role.

- The *Australian Education Council (AEC)* membership is made up of State and Territory Ministers for Education, and usually meets at least annually as a consultative body to consider matters of mutual interest and generally to facilitate the exchange of information and the coordination of common programs. It is supported by a Standing Committee including the Permanent Heads of Education in each State and Territory and the Secretary of the Commonwealth Department of Employment, Education and Training.
- The *Conference of the Directors-General of Education* normally meets twice each year. Matters discussed and decisions reached at the Conference have a direct influence in each State and Territory on such matters as pre-service and in-service education of teachers, school staffing, curricula, special education, building programs, administrative procedures and the extent of uniformity and diversity between education systems. Under the auspices of the Conference of the Directors-General of Education, regular meetings of senior specialist personnel are held.
- The *Australian Council for Educational Research (ACER)* is an independent national research organisation. The Council is funded by annual grants from each of the State and Territory governments and the Commonwealth Government, as well as from its own activities. The Council is involved in its own and contract research in cooperation with education systems and plays a central role in the areas of educational measurement and evaluation as well as research into learning and teaching and in the social context of education. ACER acts as the national centre for the program of international surveys of student achievement. Authority for ACER's policy rests with its governing council.
- The *TAFE National Centre for Research and Development Ltd* was established in 1980 and is a company limited by guarantee. The main sources of funding are the Commonwealth Government (50 per cent) and the States and Territories (on a per capita basis). Initially involved in curriculum development issues, the Centre's general research thrust is now aimed towards industries' requirements of TAFE, common skills across crafts, multi-skilling, skill formation and retraining. The National TAFE Clearing House within the Centre provides a service disseminating information on research and development activities within TAFE in Australia.

There are also a number of non-government organisations which have coordinating roles in education at the national level. These include the National Catholic Education Commission, the National Council of Independent Schools Associations, the Australian Vice-Chancellors' Committee, the Australian Committee of Directors and Principals Ltd, the Australian Conference of Directors of TAFE and the Australian High School Principals' Association.

New Developments in Education

While States have primary responsibility for the education of young people, the Commonwealth has continued to play a significant role in addressing national priorities for schools. Considerable progress has been made in the development of national goals on schooling, curriculum collaboration in key subject areas, teacher education and the removal of unnecessary differences between school systems.

The Australian Education Council recently identified ten common and agreed goals for schooling (known as the Hobart Declaration) as a basis for cooperation between schools, States and Territories and the Commonwealth. These goals include the development of students' skills of literacy, numeracy, writing and computer skills, and respect and understanding of Aboriginal heritage and the environment.

The ten goals provide a framework for further cooperative curriculum development through a new national curriculum agency under the auspices of the Australian Education Council and for the implementation of an Annual National Report on Schooling. Further developmental work in curriculum cooperation is under way including the mapping of key subject areas to identify significant areas of commonality and to draw attention to areas where further collaboration may serve to remove unnecessary differences between systems.

Ministers have also agreed to work towards common handwriting styles and school starting ages and to develop strategies to improve and strengthen teacher education.

In conjunction with the States and Territories, the Commonwealth is providing further funding from 1990 for a new school-based program to assist students most likely to leave school early to remain at school.

Following an eighteen month period of intensive review of the higher education system, the release of *Higher Education: a policy statement* (White Paper) in July 1988 established the framework for reform and expansion of the higher education system.

One of the major reforms has been the abolition of the binary system of universities and colleges of advanced education, and its replacement by the unified national system. The establishment of the unified national system is leading to a system with fewer, larger institutions, with each institution having a broader educational profile. It is expected that when the process of consolidation is complete there will be 30–35 higher education institutions in Australia.

Other developments include the introduction of the following:

- the Higher Education Contribution Scheme (HECS) on 1 January 1989;
- new arrangements for the development and delivery of high quality external studies courses;
- rolling triennial funding, with operating grants allocated as a single block grant to replace the previous fragmented funding arrangements;
- a framework for the development of a long-term strategy that will make achievement of specific equity objectives a major concern of higher education institutions; and
- measures to ensure greater freedom and flexibility of institutions.

Pre-school Education

All States and Territories except one have a policy of making pre-school education universal for children in the years prior to school entry. A majority of the States and Territories have made considerable progress towards this goal. Most pre-schools are conducted on a sessional basis (i.e. sessions of two to three hours for two to five days per week). Pre-school programs generally favour the free play approach with emphasis on children's social and emotional development through creative activities. Parents often contribute by assisting at some sessions or by the purchase of play materials and educational resources. Attendance fees are not usually charged in those States where pre-schools are government-run, but in others, fees may be payable to private or voluntary organisations.

Primary and Secondary Education

Compulsory education

School attendance is compulsory throughout Australia between the ages of 6 and 15 years (16 years in Tasmania). Each State or Territory has its own specific requirements. The majority of children commence primary school at about 5 years of age. Primary schooling generally begins with a preparatory or kindergarten year, followed by 12 grades to complete a full secondary course of study. While the final two years of schooling generally fall outside the compulsory stage of education, over two-thirds of students remain at school until Year 11 and over half remain until Year 12.

Non-government schools

All children between the prescribed ages must attend either a government school or some other recognised educational institution. The majority of Australian children (2,197,703 in 1988) attend government schools. In 1988 27.3 per cent of students (824,626) attended non-government schools. Non-government schools operate under conditions determined by government authorities, usually registration boards, in each State and Territory. These conditions require that minimum education standards are met and that the schools have satisfactory premises. The majority of non-government schools are Catholic and there is a Catholic Education Commission in each State and at the national level. Most other non-government schools are under the auspices of, or run by, other religious denominations. The capacity of the Commonwealth Government to assist with the cost of educating children in denominational schools throughout Australia was upheld by the High Court in 1981.

Funding of schools

Primary and secondary education is free in government schools in all States and Territories. Fees for the hire of text books and other school equipment, however, may be charged, particularly in secondary schools. Most State governments provide financial assistance to parents under specified conditions for educational expenses. Assistance includes various types of scholarships, bursaries, transport and boarding allowances, many of which are intended to assist low-income families. The Commonwealth Government also provides a number of schemes of assistance to facilitate access to education. An estimated 142,000 secondary students aged 16 and over from low income families received assistance in 1988 under AUSTUDY.

Major responsibility for funding government schools lies with State governments which provide about 90 per cent of schools' running costs. The Commonwealth contribution represents about 10 per cent. The Commonwealth is the major source of public funding for non-government schools, providing about 65 per cent against the States' 35 per cent.

In 1985 the Commonwealth introduced a funding plan which provides stability and long term security, by means of significant increases to both sectors, over an eight year period to 1992. Grants for the second four years, 1989–1992, were included in legislation introduced at the end of 1988. A discussion paper on arrangements to apply beyond 1992 has been prepared and circulated prior to the announcement of future funding arrangements in late 1989.

A new basis for Commonwealth schools funding has been implemented for the 1989–92 funding period. These agreements between the Commonwealth and government and non-government education authorities emphasise educational outcomes and offer genuine prospects for better and more public accountability for education funding.

School organisation and operation

Primary schooling provides a general elementary program lasting for 7 or 8 years until Years 6 or 7. Students enter secondary schools at Year 7 in some State systems and at Year 8 in others. Secondary education is generally comprehensive and co-educational. Most students attend schools reasonably near to their homes. Usually primary and secondary schools are separate institutions, but in some country areas there are area or central schools which provide both forms of schooling. Non-government schools follow a similar pattern, but a significant though declining proportion are single sex institutions. In Tasmania and the Australian Capital Territory, attendance for the final two years of government schooling is at separate secondary colleges.

Generally, schools in Australia have a considerable degree of autonomy. Most State departments have established regional administrations which are responsible for matters such as planning school buildings and deploying staff while a central curriculum unit provides general guidelines on course planning. In general, individual schools determine teaching and learning approaches within the guidelines and offer options within resources available and the attitudes and interests of students. Some systems encourage school-based curriculum development and, in the case of the Australian Capital Territory, school-based assessment in place of external examinations. While schools usually have a parents' association, there has been encouragement of greater community participation in general decision making at school level in some systems through parent representation on school councils and boards.

Specialist services and programs provided in schools include educational or vocational counselling by a permanent or visiting teacher, English as a Second Language program by specialist teachers (especially in schools with significant numbers of children from non-English speaking backgrounds), special programs designed to assist Aboriginal school children (including the widespread use of Aboriginal teachers' aides and bilingual education programs in communities where the children's first language is an Aboriginal language), a variety of programs for gifted and talented children, and remedial assistance for children with learning difficulties.

Primary education

In the lower primary years the main emphasis is on the development of basic language and literacy skills, simple arithmetic, moral and social education, health training and some creative activities.

In the upper primary years there is development of the skills learned in the earlier years. English, mathematics, social studies, science, music, art and craft, physical education and health are studied. There are also optional subjects such as religious instruction and, in some schools, foreign and community languages and instrumental music.

Students in Australian primary schools usually have only one teacher for all subjects, and are promoted each year on the basis of completing the previous year, rather than on achievement. In schools where open plan learning styles have been adopted, the method of team teaching (more than one teacher to a class) and multi-age grouping of students is often practised.

Secondary education

In some systems, the first one or two years of secondary school consist of a general program which is followed by all students, although there may be some electives. In later years a basic core of subjects is retained with students being able to select additional optional subjects. In other systems, students select options from the beginning of secondary school.

The core subjects in all systems are English, mathematics, science and, usually, a humanities or social science subject. Optional subjects may include, for example, a foreign language, a further humanities or social science subject, commerce, art, crafts, music, home economics, a manual arts subject, agriculture, physical education or health education. Some schools offer optional courses in subjects such as consumer education, conversational foreign languages, shorthand, typing, road safety, drama and leisure-time activities.

In senior secondary years, a wider range of options is available in the larger schools and there is an increasing trend towards encouraging individual schools to develop courses suited to the needs and interests of their students, subject to accreditation and moderation procedures.

In the Northern Territory, two Aboriginal residential colleges assist Aboriginals to participate in secondary education.

Students in Australian secondary schools generally have different teachers for each separate subject area, though, like primary schools, variations may occur where open planned or more flexible methods have been adopted. Promotion is, again, generally chronological, but students may be grouped according to ability after an initial period in unstreamed classes.

Examinations and assessment at each level are carried out by individual schools except Year 12 in the systems which have retained external examinations at Year 12 level. Students attaining the minimum school leaving age may leave school and seek employment, or enrol in a vocationally oriented course in a TAFE institution or a private business college. For many TAFE courses, completion of Year 10 of secondary school is a minimum entry requirement. For those continuing to the end of secondary school (Year 12), opportunities for further study are available in TAFE institutions, higher education institutions and other post-school institutions. The latter include non-government teachers colleges and a few single purpose institutions such as the Australian Film, Television and Radio School, the Australian Maritime College and the National Institute of Dramatic Art.

Students' eligibility for entry to higher education institutions is assessed during, or at the end of, the final two years of secondary schooling. Five States and the Northern Territory use different combinations of school assessment and public examinations. In Queensland and the Australian Capital Territory eligibility to enter higher education is determined from moderated and standardised school assessments. Several education systems are currently reviewing their senior secondary school assessment procedures.

Other schooling arrangements

Children may be exempted from the requirement of compulsory attendance if they live too far from a school or suffer a physical disability. These children usually receive correspondence tuition. Special schools are available in larger centres for socially, physically and mentally handicapped children in cases where they are not catered for in special or regular classes in ordinary schools.

In addition to correspondence tuition there are provisions for children in isolated areas. Schools of the Air operate in New South Wales, South Australia, Queensland, Western Australia and the Northern Territory.

The Remote Area Program for Aborigines (RAPA) is designed to provide post primary age students (12–15 years) in remote communities with an extended and improved range of course options emphasising vocational skills and courses relevant to community development.

Schooling for the children of Aboriginal groups in remote areas of the Northern Territory is conducted by Aboriginal teaching assistants supported by visiting teachers from established schools. The Scheme for the Placement of Teachers in Aboriginal Schools aims to improve the quality of teaching in schools with high Aboriginal enrolments and to increase Aboriginal community involvement in teacher selection.

Special education is provided by State governments and non-government authorities in specialist schools, in special classes or units in regular schools or by withdrawal from regular classes for periods of intensive assistance by special staff. In all States and particularly in New South Wales, Queensland and Victoria, parents have formed voluntary organisations to establish additional schools catering for their children's special needs. The Commonwealth Government provides funds to State and non-government authorities and community groups to assist in the provision of services and upgrading of special education facilities.

Boarding facilities are available at some non-government schools mainly in the larger towns and cities. A small number of government schools, in particular those catering for groups such as Aboriginals, have residential hostels close by. The Commonwealth is providing additional funding for two years from 1989 to assist government and non-government authorities to refurbish hostels for rural students undertaking secondary education.

SCHOOLS, STUDENTS AND TEACHING STAFF BY CATEGORY OF SCHOOL (AND NON-GOVERNMENT AFFILIATION), AUSTRALIA, 1988

	Government schools	*Non-government schools*				*All schools*
		Anglican	*Catholic*	*Other*	*Total (a)*	
Number of schools	7,535	114	1,725	680	2,519	10,054
Number of students—						
Males	1,128,011	41,378	296,199	75,676	413,253	1,541,264
Females	1,069,692	35,549	295,149	80,675	411,373	1,481,065
Persons	**2,197,703**	**76,927**	**591,348**	**156,351**	**824,626**	**3,022,329**
Number of teaching staff *(b)*—						
Males	61,714	2,645	11,531	4,568	18,744	80,458
Females	87,191	3,051	22,366	6,694	32,111	119,303
Persons	**148,905**	**5,697**	**33,897**	**11,262**	**50,855**	**199,760**

(a) Includes special schools administered by government authorities other than the State Departments of Education in Victoria and Western Australia. *(b)* Full-time teaching staff plus full-time equivalents of part-time teaching staff.

STUDENTS BY CATEGORY OF SCHOOL AND SEX, AUSTRALIA

	1983	*1984*	*1985*	*1986*	*1987*	*1988*
			GOVERNMENT SCHOOLS			
Males	1,173,036	1,162,979	1,147,561	1,134,704	1,128,722	1,128,011
Females	1,107,986	1,097,572	1,083,272	1,073,097	1,068,020	1,069,692
Persons	*2,281,022*	*2,260,551*	*2,230,833*	*2,207,801*	*2,196,742*	*2,197,703*
			NON-GOVERNMENT SCHOOLS			
Males	368,321	379,652	389,385	397,705	404,723	413,253
Females	366,463	377,400	385,951	395,883	403,418	411,373
Persons	*734,784*	*757,052*	*775,336*	*793,588*	*808,141*	*824,626*
			SCHOOLS			
Males	*(a)*	1,542,631	1,536,946	1,532,409	1,533,445	1,541,264
Females	*(a)*	1,474,972	1,469,223	1,468,980	1,471,438	1,481,065
Persons	*(a)*	**3,017,603**	**3,006,169**	**3,001,389**	**3,004,883**	**3,022,329**

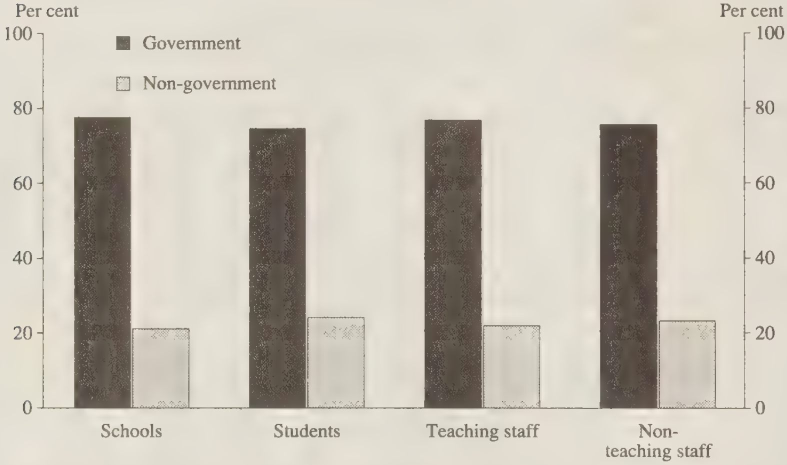
(a) The government and non-government school sectors have not been totalled for 1983 as the two sectors vary in scope and coverage for that year. In addition, care should be exercised when comparing data in this publication with that prior to 1982 and 1984 for the government and non-government series respectively.

NUMBER OF FULL-TIME STUDENTS BY CATEGORY OF SCHOOL (AND NON-GOVERNMENT AFFILIATION), SEX AND LEVEL/YEAR OF EDUCATION, AUSTRALIA

Level /Year of education	Government schools	*Non-government schools (a)*				*All schools*		
		Anglican	*Catholic*	*Other*	*Total*	*Males*	*Females*	*Persons*
				1987				
Primary—								
Pre-Year 1 *(b)*	127,870	1,872	36,825	6,248	44,945	88,493	84,322	172,815
Year 1	186,251	2,211	47,324	8,139	57,674	126,090	117,835	243,925
Year 2	177,176	2,205	46,301	7,756	56,262	120,140	113,298	233,438
Year 3	175,303	2,497	46,172	7,769	56,438	118,620	113,121	231,741
Year 4	175,230	2,936	46,241	8,064	57,241	118,983	113,488	232,471
Year 5	175,804	3,665	46,565	8,620	58,850	120,253	114,401	234,654
Year 6	178,862	4,233	47,386	9,295	60,914	122,783	116,993	239,776
Year 7 *(c)*	68,224	1,613	13,965	3,289	18,867	44,776	42,315	87,091
Ungraded	9,706	11	284	1,478	1,773	6,983	4,496	11,479
Total primary	*1,274,426*	*21,243*	*331,063*	*60,658*	*412,964*	*867,121*	*820,269*	*1,687,390*
Secondary—								
Year 7 *(d)*	109,535	6,342	34,895	9,948	51,185	82,482	78,238	160,720
Year 8	180,862	9,640	50,781	16,237	76,658	132,424	125,096	257,520
Year 9	188,441	9,604	50,157	15,946	75,707	134,969	129,179	264,148
Year 10	189,905	9,825	49,237	15,951	75,013	134,233	130,685	264,918
Year 11	135,952	9,630	38,576	14,937	63,143	97,209	101,886	199,095
Year 12	92,231	8,016	29,694	12,166	49,876	67,585	74,522	142,107
Ungraded	6,156	25	149	499	673	3,907	2,922	6,829
Total secondary	*903,082*	*53,082*	*253,489*	*85,684*	*392,255*	*652,809*	*642,528*	*1,295,337*
Special *(e)*—								
Primary	3,408	15	234	418	667	2,564	1,511	4,075
Secondary	3,021	14	292	375	681	2,319	1,383	3,702
Not identifiable as primary or secondary	12,805	—	88	1,486	1,574	8,632	5,747	14,379
Total special	*19,234*	*29*	*614*	*2,279*	*2,922*	*13,515*	*8,641*	*22,156*
Total students	**2,196,742**	**74,354**	**585,166**	**148,621**	**808,141**	**1,533,445**	**1,471,438**	**3,004,883**
				1988				
Primary—								
Pre-Year 1 *(b)*	129,011	1,950	37,445	6,673	46,068	90,069	85,010	175,079
Year 1	192,986	2,330	48,440	8,786	59,556	130,010	122,532	252,542
Year 2	183,728	2,408	47,559	8,548	58,515	124,483	117,760	242,243
Year 3	175,576	2,727	46,926	8,425	58,078	119,942	113,712	233,654
Year 4	175,286	2,891	46,567	8,402	57,860	119,242	113,904	233,146
Year 5	174,711	3,872	46,991	9,109	59,972	120,138	114,545	234,683
Year 6	176,178	4,342	47,046	9,626	61,014	121,704	115,488	237,192
Year 7 *(c)*	67,361	1,663	13,796	3,436	18,895	44,122	42,134	86,256
Ungraded	8,254	9	186	1,616	1,811	6,129	3,936	10,065
Total primary	*1,283,091*	*22,192*	*334,956*	*64,621*	*421,769*	*875,839*	*829,021*	*1,704,860*
Secondary—								
Year 7 *(d)*	105,078	6,317	34,120	10,116	50,553	79,871	75,760	155,631
Year 8	174,073	9,755	50,065	16,419	76,239	128,478	121,834	250,312
Year 9	180,900	9,946	50,375	16,441	76,762	132,208	125,454	257,662
Year 10	180,224	9,853	48,754	16,183	74,790	129,308	125,706	255,014
Year 11	144,456	10,067	39,653	15,895	65,615	102,762	107,309	210,071
Year 12	105,841	8,742	32,800	14,086	55,628	76,322	85,147	161,469
Ungraded	5,834	24	70	554	648	3,773	2,709	6,482
Total secondary	*896,406*	*54,704*	*255,837*	*89,694*	*400,235*	*652,722*	*643,919*	*1,296,641*
Special *(e)*—								
Primary	2,944	11	246	388	645	2,284	1,305	3,589
Secondary	2,517	20	233	264	517	1,895	1,139	3,034
Not identifiable as primary or secondary	12,745	—	76	1,384	1,460	8,524	5,681	14,205
Total special	*18,206*	*31*	*555*	*2,036*	*2,622*	*12,703*	*8,125*	*20,828*
Total students	**2,197,703**	**76,927**	**591,348**	**156,351**	**824,626**	**1,541,264**	**1,481,065**	**3,022,329**

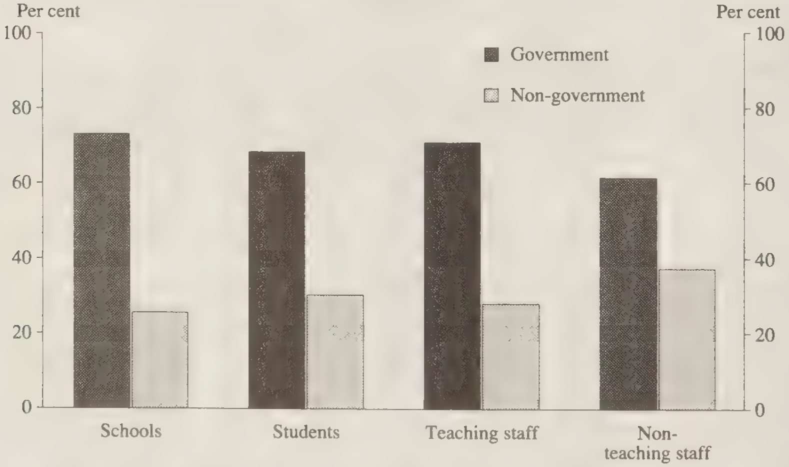
(a) Includes full-time students attending special schools administered by government authorities other than the State Departments of Education. *(b)* Pre-Year 1 comprises Kindergarten in NSW and ACT, Preparatory in Vic., and Tas., Reception in SA, and Transition in NT. *(c)* Year 7 is primary education in Qld, SA, WA, and NT. *(d)* Year 7 is secondary education in NSW, Vic., Tas., and the ACT. *(e)* Attending special schools.

PRIMARY SCHOOLS, FULL-TIME STUDENTS AND FTE(a) OF SCHOOL STAFF BY CATEGORY OF SCHOOL, AUSTRALIA, 1988



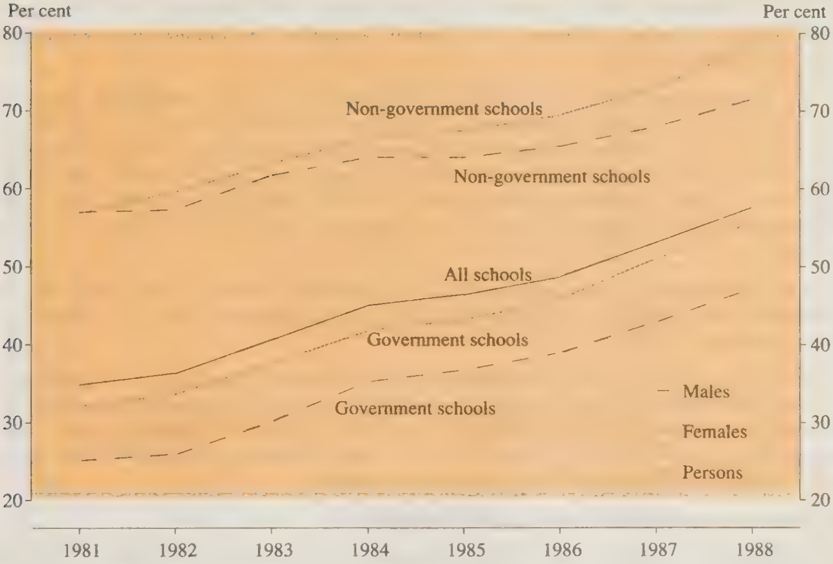
(a) Full-time teaching staff plus full-time equivalents of part-time teaching staff.
Note: Combined Primary/Secondary schools are not included in the above graph; however the associated students and staff are included. Special schools and their associated students and staff are not included in the above graph.

SECONDARY SCHOOLS, FULL-TIME STUDENTS AND FTE(a) OF SCHOOL STAFF BY CATEGORY OF SCHOOL, AUSTRALIA, 1988



(a) Full-time teaching staff plus full-time equivalents of part-time teaching staff.
Note: Combined Primary/Secondary schools are not included in the above graph; however the associated students and staff are included. Special schools and their associated students and staff are not included in the above graph.

APPARENT RETENTION RATES OF SCHOOL STUDENTS TO YEAR 12 BY CATEGORY OF SCHOOL AND SEX, AUSTRALIA, 1981-1988



The apparent retention rate is the percentage of students of a given cohort group who continued to a particular level/year of education. In the above diagram, apparent retention rates have been calculated for students who continued to Year 12 from their respective cohort group at the commencement of their secondary schooling.

Care should be exercised in the interpretation of apparent retention rates since a range of factors affecting their calculation have not been taken into account. At the Australia level these include students repeating a year of education, migration and other net changes to the school population.

Comparisons between government and non-government schools must be made with caution because of the net transfer of students from government to non-government schools which tends to inflate the non-government school retention rates and reduce the government school rates. International comparisons are another area where structural differences must be taken into account.

Apparent retention rates are an important measure of performance of education systems and related government policies. The Commonwealth Department of Employment, Education and Training has set a national apparent retention rate target of 65 per cent to Year 12 by 1992.

Tertiary Education

Tertiary education is provided in higher education institutions and in technical and further education institutions. Higher education institutions are self-governing and are established under State legislation. Technical and further education institutions operate as part of State-wide TAFE systems.

At the beginning of 1989 a scheme for collecting a financial contribution from higher education students, known as the Higher Education Contribution Scheme, was introduced. In 1989 there was an annual course contribution of $1,800 per year of equivalent full-time study. It is collected according to the student's capacity to pay. Students are given the opportunity to pay at enrolment and receive a 15 per cent discount or to defer payment and repay through the taxation system. Some institutions offer full fee courses for overseas students.

A recent development in Australian tertiary education has been the establishment of private institutions. For example, the Bond University in Queensland opened its doors to fee paying students in 1989.

At the national level, the Commonwealth Government, through its Department of Employment, Education and Training, provides a number of schemes of assistance for Australian students to facilitate access to education. A brief description of these schemes was given in *Year Book* No. 64 and a list of these schemes is included in the statistical table 'Student Assistance Schemes' within this chapter.

Technical and further education—TAFE

The major part of technical and further education in Australia is provided in government administered colleges, or centres of technical and further education. There is also some TAFE provision in some higher education institutions, agricultural colleges and adult education authorities. These institutions are spread widely throughout Australia in both metropolitan and country areas. They vary greatly in size and in the scope of their educational provisions, though the largest tend to be located in metropolitan regions. TAFE institutions operate from early February to mid December, in either three terms or two semesters depending on the institution.

Each of the States provides the bulk of the finance for its own institutions. The Commonwealth government provides supplementary funds to the States on the basis of recommendations from the Department of Employment, Education and Training.

Government TAFE institutions offer an extremely wide range of vocational and non-vocational courses. Courses are available at pre-vocational, traineeship, trade technician and paraprofessional levels. Programs provide entry-level training, specialised instruction in particular aspects of job skills, pre-vocational training prior to employment, preparatory or bridging instruction to permit entry to a chosen vocational course, or supplement previous training. In addition, adult education courses are available for personal interest, leisure or general enrichment purposes.

There are additionally some non-government bodies which offer technical and further education of a non-apprenticeship nature. Business colleges offer courses in secretarial studies, while agencies such as the Workers Educational Association and a range of voluntary groups help meet adult education needs in the community.

The Department of Employment, Education and Training conducts an annual TAFE statistical collection. A key feature of the collection is its emphasis on the individual *student* as the unit of reporting rather than on enrolment.

TECHNICAL AND FURTHER EDUCATION: ALL STUDENTS BY STREAM AND FIELD OF STUDY, AUSTRALIA 1987

(*Source:* **Department of Employment, Education and Training**)

Stream	*Applied science*	*Art & design*	*Building*	*Business studies*	*Engineering*	*Rural & horti-cultural*	*Music*	*Para-medical*	*Industrial services*	*Personal services*	*General studies*	*Net*
1000 Recreation, leisure	2,426	73,765	10,886	13,128	5,540	4,889	5,549	1,881	17,972	61,347	329,083	510,457
2100 Basic employment skills	448	3,905	2,381	5,217	15,602	1,335	97	214	2,341	77,644	43,224	148,385
2200 Educational preparation	1,284	2,645	587	3,155	3,043	202	466	819	23,838	17,086	54,030	105,753
3100 Operatives: initial	1,210	8,496	12,955	75,401	26,243	13,085	280	2,530	17,319	19,739	5,071	178,129
3211 Recognised trades: part exempt	0	147	3,149	0	7,555	496	0	7	1,023	813	1,109	14,249
3212 Recognised trades: complete	79	304	26,886	0	58,608	6,492	0	469	11,527	12,746	231	117,167
3221 Other skills: part exempt	65	960	170	7,365	500	274	12	0	91	420	270	10,039
3222 Other skills: complete	6,188	12,905	5,278	47,488	14,744	7,211	734	467	21,345	6,890	11,340	130,395
3300 Trade technician/supervisory	592	1,348	5,419	52,153	8,448	3,892	224	231	29,537	3,762	622	105,653
3400 Paraprofessional technician	2,839	5,770	4,511	22,193	10,751	1,782	0	1,938	1,604	2,435	1,370	54,714
3500 Paraprofessional higher technician	1,814	3,848	2,096	26,181	16,026	2,657	364	1,121	682	1,641	968	57,166
3600 Professional	0	231	0	123	199	90	60	97	0	223	270	1,293
4100 Operatives: post initial	190	46	429	7,024	2,696	517	0	164	861	2,899	507	15,249
4200 Trades/other skills: post initial	963	2,393	2,945	28,908	24,596	13,966	35	417	4,775	5,551	5,012	88,937
4300 Trade tech./super.: post initial	83	81	254	1,756	2,390	407	0	577	427	257	24	6,242
4400 Paraprof. tech.: post initial	40	16	202	833	484	906	0	4	82	20	0	2,587
4500 Paraprof. high. tech.: post initial	498	212	95	247	554	56	81	296	1,064	282	86	3,453
Total net streams 2100–4500 (a)	*16,039*	*41,671*	*64,738*	*256,480*	*177,359*	*51,516*	*2,246*	*9,288*	*112,120*	*145,955*	*120,435*	*937,175*
Total net all streams	**18,462**	**114,503**	**75,502**	**268,921**	**182,571**	**56,240**	**7,718**	**11,160**	**129,558**	**206,276**	**447,776**	**1,430,925**

(a) The sum of the stream of study components does not add up to the total as students enrolled in two or more streams have only been counted once in the total.

TECHNICAL AND FURTHER EDUCATION: STUDENTS (STREAMS 2100–4500) BY SEX, TYPE OF ATTENDANCE AND AGE GROUP, AUSTRALIA, 1987

(*Source:* Department of Employment, Education and Training)

	Males			*Females*			*Persons*		
Age group (years)	*Full-time*	*Part-time*	*Total*	*Full-time*	*Part-time*	*Total*	*Full-time*	*Part-time*	*Total*
16 & under	6,987	28,466	35,453	5,272	22,219	27,491	12,259	50,685	62,944
17	7,322	28,385	35,707	5,361	15,689	21,050	12,683	44,074	56,757
18	7,817	36,397	44,214	6,296	19,229	25,525	14,113	55,626	69,739
19	5,353	31,850	37,203	3,688	17,011	20,699	9,041	48,861	57,902
19 & under	*27,479*	*125,098*	*152,577*	*20,617*	*74,148*	*94,765*	*48,096*	*199,246*	*247,342*
20–24	8,713	87,354	96,067	6,860	63,567	70,427	15,573	150,921	166,494
25–29	3,004	59,955	62,959	2,968	51,832	54,800	5,972	111,787	117,759
30–39	2,612	81,451	84,063	4,380	89,743	94,123	6,992	171,194	178,186
40–49	737	36,591	37,328	1,977	51,120	53,097	2,714	87,711	90,425
50–59	218	13,299	13,517	474	20,933	21,407	692	34,232	34,924
60–64	49	3,276	3,325	65	5,850	5,915	114	9,126	9,240
65 & over	109	4,823	4,932	118	7,763	7,881	227	12,586	12,813
Not stated	775	39,916	40,691	684	38,617	39,301	1,459	78,533	79,992
Total	**43,696**	**451,763**	**495,459**	**38,143**	**403,573**	**441,716**	**81,839**	**855,336**	**937,175**

TECHNICAL AND FURTHER EDUCATION: DUTY HOURS OF TEACHING STAFF ('000) AND FULL-TIME TEACHING STAFF NUMBERS BY TYPE OF APPOINTMENT, AND STATE, 1987

(*Source:* Department of Employment, Education and Training)

Type of appointment	*NSW*	*Vic.*	*Qld*	*WA*	*SA*	*Tas.*	*NT*	*ACT*	*Aust.*
Full-time									
Teaching hours	2,925.1	2,945.1	1,388.4	933.3	817.7	277.5	154.1	196.3	9,637.5
Non-teaching hours	3,853.7	2,423.6	1,792.3	704.3	1,245.7	374.6	253.1	287.9	10,935.3
Total duty hours	*6,778.8*	*5,368.7*	*3,180.7*	*1,637.6*	*2,063.4*	*652.1*	*407.3*	*484.2*	*20,572.8*
Number of Staff	5,757	4,815	2,599	1,662	1,628	535	286	493	17,775
Part-time									
Teaching hours	2,114.1	910.6	735.0	370.9	349.2	180.7	36.8	111.5	4,808.9
Non-teaching hours	382.1	207.4	99.3	3.4	1.5	11.9	18.2	7.8	731.8
Total duty hours	*2,496.2*	*1,118.0*	*834.3*	*374.3*	*350.7*	*192.6*	*55.0*	*119.3*	*5,540.7*
All teaching staff									
Teaching hours	5,039.2	3,855.7	2,123.4	1,304.2	1,166.9	458.2	190.9	307.8	14,446.4
Non-teaching hours	4,235.8	2,631.0	1,891.6	707.7	1,247.2	386.5	271.3	295.7	11,667.1
Total duty hours	**9,275.0**	**6,486.7**	**4,015.0**	**2,011.9**	**2,414.1**	**844.7**	**462.3**	**603.5**	**26,113.5**

Higher education institutions

Higher education institutions normally operate over three terms or two semesters, beginning from early to late February or March and running to mid December, depending on the institution. Students commencing courses will have completed a full secondary education, or will have demonstrated that they have a high probability of successfully completing a course. There is keen demand for places at many institutions and quotas are often placed on new enrolments.

Higher education institutions are funded by the Commonwealth under the *Higher Education Funding Act 1988*. In 1989 expenditure on higher education totalled approximately $3.1 billion.

The basic undergraduate course at most institutions is a batchelor degree course of three or four years duration. At some institutions, courses may also be offered at the diploma or associate diploma level. Most institutions also offer post-graduate level study. One to two years of full-time post-graduate study is required for a masters degree and three to five years for a doctoral degree. Post-graduate diplomas are offered in some disciplines.

All institutions provide full-time and part-time courses. In addition some institutions offer 'sandwich' courses which provide a period of full-time study with associated periods of full-time employment. External studies have been offered by a large number of institutions in the past. In 1989 resources were concentrated into eight new Distance Education Centres.

In 1988 60 per cent of students were enrolled in full-time study, 28 per cent in part-time study and 11 per cent in external studies.

Higher education institutions offer a great variety of courses embracing such areas as agriculture, architecture, arts, business and secretarial studies, dentistry, economics, education, engineering, health science studies, law, medicine, music, science and veterinary science.

The system of tuition in higher education institutions is normally by means of lectures, tutorials, seminars and supervised practical work. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework or of individual research.

Many institutions have halls of residence on the campus which accommodate some of the students currently enrolled, usually those from remote or country areas. Student organisations on campus provide a wide range of sporting and social facilities for students.

HIGHER EDUCATION: STUDENTS BY AGE GROUP AND SEX
(*Source:* **Department of Employment, Education and Training**)

	1983	1984	1985	1986	1987	1988
19 and under						
Males	47,220	48,301	49,617	52,165	56,099	61,068
Females	49,062	50,591	54,223	59,198	65,741	72,985
Persons	96,282	98,892	103,840	111,363	121,840	134,053
20–24						
Males	61,120	61,252	61,377	61,914	60,759	62,896
Females	45,009	46,256	47,956	51,123	52,558	56,899
Persons	106,129	107,508	109,333	113,037	113,317	119,795
25–29						
Males	30,644	31,034	30,669	30,869	29,251	29,327
Females	20,530	20,828	21,999	23,443	23,088	24,768
Persons	51,174	51,862	52,668	54,312	52,339	54,095
30 and over						
Males	47,753	49,858	51,970	54,464	50,022	52,333
Females	45,894	48,317	51,478	56,083	55,733	60,249
Persons	93,647	98,175	103,448	110,547	105,755	112,582
Age not stated						
Males	580	445	421	436	253	150
Females	765	491	306	273	230	175
Persons	1,345	936	727	709	483	325
Total						
Males	187,317	190,890	194,054	199,848	196,384	205,774
Females	161,260	166,483	175,962	190,120	197,350	215,076
Persons	348,577	357,373	370,016	389,968	393,734	420,850

HIGHER EDUCATION: STUDENTS BY SEX, BY LEVEL OF COURSE, AUSTRALIA

(*Source:* **Department of Employment, Education and Training)**

	Higher doctorate	Ph.D	Masters research	Masters course-work	Post-graduate quali-fication	Post-graduate diploma	Post-graduate certi-ficate	Post-graduate bachelor	Bachelor honours	Bachelor pass	Total bachelor	Diploma	Associate diploma	Other	Total
Males															
1983	143	5,138	3,822	8,263	802	14,606	0	1,042	n.a.	n.a.	126,067	11,335	11,963	4,136	187,317
1984	151	5,270	3,745	8,421	850	15,312	0	949	n.a.	n.a.	128,369	10,474	13,363	3,986	190,890
1985(*a*)	156	5,409	3,683	8,572	865	16,173	48	916	2,180	68,948	130,911	9,797	13,673	3,851	194,054
1986(*a*)	173	5,540	3,685	9,055	800	16,786	44	993	2,057	70,158	135,415	9,887	13,825	3,645	199,848
1987(*a*)	176	5,618	3,990	8,224	909	15,671	39	894	2,263	69,458	136,887	8,945	12,420	2,611	196,384
1988(*a*)	148	5,816	4,110	8,979	920	16,279	37	807	2,496	72,216	144,433	9,181	12,248	2,816	205,774
Females															
1983	17	1,897	1,998	3,829	530	13,620	0	1,456	n.a.	n.a.	101,780	23,906	8,168	4,059	161,260
1984	16	2,048	2,036	4,101	585	13,794	0	1,307	n.a.	n.a.	105,999	24,046	8,520	4,031	166,483
1985(*a*)	24	2,216	2,064	4,484	658	14,571	18	1,436	1,879	62,131	111,444	25,780	9,219	4,048	175,962
1986(*a*)	21	2,330	2,147	4,943	652	15,897	24	1,599	1,895	65,481	120,703	28,071	9,666	4,067	190,120
1987(*a*)	24	2,493	2,266	5,177	684	15,981	26	1,541	2,493	66,159	127,290	29,606	9,231	3,031	197,350
1988(*a*)	33	2,747	2,435	5,957	723	17,476	38	1,523	2,699	72,284	139,030	32,191	8,922	4,001	215,076
Persons															
1983	160	7,035	5,820	12,092	1,332	28,226	0	2,498	n.a.	n.a.	227,847	35,241	20,131	8,195	348,577
1984	167	7,318	5,781	12,522	1,435	29,106	0	2,256	n.a.	n.a.	234,368	34,520	21,883	8,017	357,373
1985(*a*)	180	7,625	5,747	13,056	1,523	30,744	66	2,352	4,059	131,079	242,355	35,577	22,892	7,899	370,016
1986(*a*)	194	7,870	5,832	13,998	1,452	32,683	68	2,592	3,952	135,639	256,118	37,958	23,491	7,712	389,968
1987(*a*)	200	8,111	6,256	13,401	1,593	31,652	65	2,435	4,756	135,617	264,177	38,551	21,651	5,642	393,734
1988(*a*)	181	8,563	6,545	14,936	1,643	33,755	75	2,330	5,195	144,500	283,463	41,372	21,170	6,817	420,850

(*a*) Includes State-funded basic nursing students who would previously have been trained in hospitals.

HIGHER EDUCATION: COURSE COMPLETIONS BY SECTOR, LEVEL OF COURSE AND SEX

(*Source:* **Department of Employment, Education and Training**)

	1978	1981	1984	1985	1986	1987
Higher degree						
Research						
Males	1,446	1,312	1,108	1,216	1,276	1,257
Females	342	417	374	424	516	476
Persons	1,788	1,729	1,482	1,640	1,792	1,733
Coursework						
Males	1,002	1,126	1,910	1,866	1,940	1,622
Females	333	435	770	821	968	900
Persons	1,335	1,561	2,680	2,687	2,908	2,522
Other						
Post-graduate						
Males	4,094	4,388	5,062	5,693	5,719	5,982
Females	4,599	4,965	5,693	6,149	6,637	7,135
Persons	8,693	9,353	10,755	11,842	12,356	13,117
Bachelor						
Males	20,939	20,929	22,782	23,113	24,347	24,372
Females	14,089	17,172	19,965	21,186	22,886	24,845
Persons	35,028	38,101	42,747	44,299	47,233	49,217
Other						
Males	6,885	5,639	4,482	4,620	4,879	4,300
Females	12,371	9,863	8,141	8,347	8,613	9,368
Persons	19,256	15,502	12,623	12,967	13,492	13,668
Total						
Males	*34,366*	*33,394*	*35,344*	*36,508*	*38,161*	*37,533*
Females	*31,734*	*32,852*	*34,943*	*36,927*	*39,620*	*42,724*
Persons	*66,100*	*66,246*	*70,287*	*73,435*	*77,781*	*80,257*

HIGHER EDUCATION: STUDENTS BY TYPE OF ENROLMENT AND SEX

(*Source:* **Department of Employment Education and Training**)

Year	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Internal						
Full-time						
Males	98,623	102,148	104,276	107,342	114,739	122,433
Females	89,884	93,639	100,063	107,903	119,415	130,980
Persons	188,507	195,787	204,339	215,245	234,154	253,413
Part-time						
Males	67,691	66,396	66,407	67,619	59,475	60,606
Females	51,263	51,924	53,674	57,585	54,374	58,647
Persons	118,954	118,320	120,081	125,204	113,849	119,253
External						
Males	21,003	22,346	23,371	24,887	22,170	22,735
Females	20,113	20,920	22,225	24,632	23,561	25,449
Persons	41,116	43,266	45,596	49,519	45,731	48,184
Total						
Males	*187,317*	*190,890*	*194,054*	*199,848*	*196,384*	*205,774*
Females	*161,260*	*166,483*	*175,962*	*190,120*	*197,350*	*215,076*
Persons	*348,577*	*357,373*	*370,016*	*389,968*	*393,734*	*420,850*

HIGHER EDUCATION: COMMENCING STUDENTS BY SEX, LEVEL OF COURSE AND FIELD OF STUDY, 1988

(*Source:* **Department of Employment, Education and Training**)

Level of course	*Agri-culture, animal husbandry*	*Archi-tecture, building*	*Arts, humanities and social sciences*	*Business admin-istration, economics*	*Education*	*Engineering and surveying*	*Health*	*Law, legal studies*	*Science*	*Veterinary science*	*Non-award courses*	*Total*
Higher doctorate	0	0	1	0	0	0	37	1	3	1	0	43
Ph.D	74	14	501	79	137	180	215	21	589	28	0	1,838
Masters												
Research	110	41	670	143	188	348	181	82	500	21	0	2,284
Coursework	32	218	1,324	1,874	1,392	487	391	330	413	14	0	6,475
Total	*142*	*259*	*1,994*	*2,017*	*1,580*	*835*	*572*	*412*	*913*	*35*	*0*	*8,759*
Postgraduate												
Qualifying or preliminary	44	48	354	172	162	98	37	1	249	11	0	1,176
Diploma	174	278	2,697	3,371	8,928	959	1,264	763	2,182	11	0	20,627
Certificate	0	0	0	0	0	0	0	75	0	0	0	75
Bachelor	0	37	266	0	533	5	0	184	0	0	0	1,025
Total	*218*	*363*	*3,317*	*3,543*	*9,623*	*1,062*	*1,301*	*1,023*	*2,431*	*22*	*0*	*22,903*
Bachelor degree												
Honours	2	1	209	14	20	1	18	1	152	3	0	421
Pass	1,354	2,331	30,474	24,658	10,864	7,660	6,618	1,765	16,584	319	0	102,627
Total	*1,356*	*2,332*	*30,683*	*24,672*	*10,884*	*7,661*	*6,636*	*1,766*	*16,736*	*322*	*0*	*103,048*
Diploma	0	20	764	55	9,175	28	6,663	0	197	0	0	16,902
Associate diploma	1,393	66	2,735	1,956	211	940	676	230	1,797	0	0	10,004
Undergraduate certificate	0	0	0	0	0	0	0	0	0	0	0	0
Other award course	1	0	249	31	1	0	1	5	30	0	0	318
Non-award course	0	0	0	0	0	0	0	0	0	0	5,101	5,101
Total	**3,184**	**3,054**	**40,244**	**32,353**	**31,611**	**10,706**	**16,101**	**3,458**	**22,696**	**408**	**5,101**	**168,916**

HIGHER EDUCATION: ALL STUDENTS BY SEX, LEVEL OF COURSE AND FIELD OF STUDY, 1988
(*Source:* Department of Employment, Education and Training)

Level of course	*Agri-culture, animal husbandry*	*Archi-tecture, building*	*Arts, humanities and social sciences*	*Business admin-istration, economics*	*Education*	*Engineering and surveying*	*Health*	*Law, legal studies*	*Science*	*Veterinary science*	*Non-award courses*	*Total*
Higher doctorate	0	0	3	0	0	0	169	1	7	1	0	181
Ph.D	344	83	2,237	322	578	914	953	67	2,913	152	0	8,563
Masters												
Research	340	124	1,946	336	594	889	516	218	1,509	73	0	6,545
Coursework	74	468	2,770	4,332	3,689	1,087	873	708	911	24	0	14,936
Total	*414*	*592*	*4,716*	*4,668*	*4,283*	*1,976*	*1,389*	*926*	*2,420*	*97*	*0*	*21,481*
Postgraduate												
Qualifying or preliminary	62	57	565	244	204	112	48	1	338	12	0	1,643
Diploma	282	640	4,283	6,008	14,163	1,554	2,128	951	3,733	13	0	33,755
Certificate	0	0	0	0	0	0	0	75	0	0	0	75
Bachelor	0	92	628	0	1,224	9	17	360	0	0	0	2,330
Total	*344*	*789*	*5,476*	*6,252*	*15,591*	*1,675*	*2,193*	*1,387*	*4,071*	*25*	*0*	*37,803*
Bachelor degree												
Honours	22	22	2,801	296	93	271	39	133	1,507	11	0	5,195
Pass	3,751	7,524	78,590	64,481	27,970	23,892	21,541	7,986	41,325	1,208	0	278,268
Total	*3,773*	*7,546*	*81,391*	*64,777*	*28,063*	*24,163*	*21,580*	*8,119*	*42,832*	*1,219*	*0*	*283,463*
Diploma	51	53	1,837	130	23,628	83	14,956	0	634	0	0	41,372
Associate diploma	2,699	168	5,412	4,499	467	2,403	1,469	583	3,470	0	0	21,170
Undergraduate certificate	0	0	0	0	0	0	0	0	0	0	0	0
Other award course	1	0	456	88	1	0	1	9	41	0	0	597
Non-award course	0	0	0	0	0	0	0	0	0	0	6,220	6,220
Total	**7,626**	**9,231**	**101,528**	**80,736**	**72,611**	**31,214**	**42,710**	**11,092**	**56,388**	**1,494**	**6,220**	**420,850**

Programs Spanning the Educational Sectors

The Government spent more than $855 million on student assistance in 1988–89. This was the third year of AUSTUDY, the Commonwealth Government's means-tested and non-competitive scheme of financial assistance to secondary and tertiary students aged 16 years and above. As from 1988, maximum allowance rates for students aged 16–20 are aligned with unemployment benefits for people of the same age, and all rates are now indexed annually. AUSTUDY is a major element in the Commonwealth Government's drive to increase participation in full-time education at the upper secondary and tertiary levels. New, higher AUSTUDY rates, equal to adult unemployment benefits, were introduced in 1989 for specially disadvantaged groups as a first step in a gradual process of alignment of maximum rates for people aged 21 and over or with dependents.

STUDENT ASSISTANCE SCHEMES, 1988–89

Scheme	*Number of students*	*Assistance $'000*
Postgraduate Awards *(a)*	2,450	23,629
AUSTUDY Tertiary *(b)*	137,833	436,608
AUSTUDY Secondary *(b)*	142,155	275,660
AUSTUDY Adult Secondary *(b)*	5,715	19,955
Aboriginal Secondary Grants *(c)*	22,638	39,997
Aboriginal Study Grants *(c)*	9,848	34,140
Aboriginal Study Grants Overseas *(d)*	10	210
Assistance for Isolated Children *(b)*	17,334	21,470
English as a Second Language—Living Allowances *(b)*	1,356	3,355

(a) Number of students at 30 June 1988. *(b)* Number of students at 31 December 1988. *(c)* Total number assisted in the six months to 30 June. *(d)* Total number assisted in the financial year to 30 June.

The number of students assisted under AUSTUDY has increased substantially since the introduction of the scheme in 1987. From about 225,000 students in that first year it rose to about 286,000 in 1988 and an estimated 298,500 in 1989.

Assistance for isolated children has been substantially improved, with rates of allowance and income test levels brought into line with AUSTUDY. This closer integration of the two schemes has included the transfer to AUSTUDY, from the beginning of 1989, of means-tested living away from home allowances for isolated secondary students aged 16 years and over.

Special provisions for young people unable to live at home because of exceptional and intolerable circumstances were introduced in July 1986. These provisions allow young people in such circumstances to be classified as independent, thus free from the application of the parental means test in assessing their eligibility for AUSTUDY.

The National Aboriginal and Torres Strait Islander Education Policy (AEP) was launched by the Minister for Employment, Education and Training in October 1989. The Policy is a joint commitment by the Commonwealth, State and Territory governments and the National Aboriginal Education Reference Group to achieve broad equity between Aboriginal people and other Australians in access, participation and outcomes at all stages of education.

The AEP is a concerted effort to address the educational needs of Aboriginal people, by cooperatively directing the strategies of the Commonwealth, the States and Territories, non-government education authorities and educational institutions at all levels to achieve:

- full involvement of Aboriginal people in educational decisions;

- equality of access to educational services;
- increased participation at all levels of education; and
- equitable and appropriate educational outcomes.

Through the AEP the Commonwealth has supplemented its recurrent and capital funding with a three year forward commitment in one consolidated program—the Aboriginal Education Strategic Initiatives Program. This has replaced all previous Commonwealth education funding programs except income support through ABSTUDY. ABSTUDY continues to provide education allowances to Aboriginal secondary and tertiary students.

Expenditure on Education

The aim of this section is to provide information on the extent and direction of both government and private expenditure on education in recent years. The figures have been compiled in accordance with national accounting concepts. For explanation of these concepts, reference should be made to *Australian National Accounts: Concepts, Sources and Methods* (5216.0), *Classification Manual for Government Finance Statistics, Australia* (1217.0) and also to *Commonwealth Government Finance, Australia* (5502.0), and *State and Local Government Finance, Australia* (5504.0), from which figures included in this section have also been taken.

The emphasis given in this section to the outlays of the public sector reflects in part the relative importance of that sector in the provision of education services, but it is also a reflection of the lack of detailed information relating to educational activities in the private sector. Information is given, however, to show the order of magnitude of private sector spending, and also to show aggregate supply of education services and facilities. For more information on the extent and direction of both government and private expenditure on education, reference should be made to *Expenditure on Education, Australia* (5510.0).

Total expenditure on education

Total expenditure on education can be measured by adding together the final expenditures of the public and private sectors.

The figure derived for total expenditure on education can be regarded as a measure of the aggregate supply of education services and facilities and can therefore be related to the supply of goods and services available from domestic production (i.e. gross domestic product). Final consumption expenditure and capital expenditure on education, by sector, can also be related to gross domestic product. These relationships are shown in the table below.

Public sector

The statistics presented here for the public sector relate to those outlays which have been identified as being primarily designed to serve the purposes of ‘education’, as broadly defined in the United Nations System of National Accounts. Included, therefore, are outlays on administration and regulation of school systems and institutions of higher learning and educational research; on provision, inspection and support of primary and secondary schools, colleges and universities, technical training institutions, schools for the handicapped, adult education facilities, pre-school centres etc.; on scholarships etc.; and on subsidiary services such as transportation of school children and fare concessions. Expenditure on school medical and dental services and provision of free milk for school children are not included, as these are regarded as primarily serving the purpose of health.

Private sector

Final expenditure on education by the private sector consists of private final consumption expenditure on education services, and expenditure on new fixed assets—mainly by private non-profit organisations and financed in part by grants from public authorities for private capital purposes. Private final consumption expenditure on education services is an estimate of fees paid by persons to government schools (mainly technical and agricultural colleges), fees and gifts to universities and school fees (other than boarding fees) paid to non-government schools, business colleges, etc. Expenditure on such items as school books, uniforms, etc., and expenditure by parents' associations on school equipment is not included, being treated in the Australian National Accounts as private final consumption expenditure on other goods and services (such as clothing, books, household durables, etc.). Private expenditure on new fixed assets is estimated from statistics of the value of work done on new building and major additions to buildings of private educational institutions.

AUSTRALIA: EXPENDITURE ON EDUCATION

Description	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
			—$ million—			
Government—						
General government final consumption expenditure	6,681	7,476	8,225	8,856	9,697	10,264
Gross fixed capital expenditure	618	656	736	877	1,022	1,142
Increase in stocks	1	–1	3	—	1	1
Final expenditure (1)	7,300	8,131	8,964	9,733	10,720	11,407
Personal benefit payments (2)	479	549	663	734	829	935
Grants and advances to non-profit institutions	792	972	1,084	1,194	1,345	1,441
Other (3)	8	14	18	28	29	5
Total government outlay on education	**8,579**	**9,666**	**10,729**	**11,689**	**12,923**	**13,788**
Private—						
Private final consumption expenditure	1,063	*(a)*1,287	*(a)*1,532	*(a)*1,729	*(a)*1,918	*(a)*2,148
Gross fixed capital expenditure	160	196	177	175	224	278
Final expenditure (4)	1,223	1,483	1,709	1,904	2,142	2,426
Total final expenditure on education (1) + (4)	8,523	9,614	10,673	11,637	12,862	13,833
Total outlay on education (1) + (2) + (3) + (4)	9,010	10,177	11,354	12,399	13,720	14,773
Gross Domestic Product	155,737	169,854	190,631	211,483	236,202	260,379
			—per cent—			
Total government outlay as percentage of Gross Domestic Product	5.5	5.7	5.6	5.5	5.5	5.3
Total outlay on education as percentage of Gross Domestic Product	5.8	6.0	6.0	5.9	5.8	5.7
Total final expenditure on education as percentage of Gross Domestic Product	5.5	5.7	5.6	5.5	5.4	5.3
of which—						
General government final consumption expenditure	4.3	4.4	4.3	4.2	4.1	3.9
Private final consumption expenditure	0.7	0.8	0.8	0.8	0.8	0.8
Government gross fixed capital expenditure	0.4	0.4	0.4	0.4	0.4	0.4
Private gross fixed capital expenditure	0.1	0.1	0.1	0.1	0.1	0.1

(a) Revised since the 1983–84 edition of *Australian National Accounts: National Income and Expenditure* (5204.0) because of revisions to the component series 'current grants from government to non-profit institutions for education'.

Commonwealth Government

Details of outlay on education by authorities of the Commonwealth Government are given in the following table.

COMMONWEALTH GOVERNMENT: OUTLAY ON EDUCATION CLASSIFIED BY GOVERNMENT PURPOSE CLASSIFICATION
($ million)

Government purpose classification		*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
041	Primary and secondary education	1,190.4	1,430.6	1,585.8	1,733.5	1,899.0	1,995.7
042	Tertiary education	2,045.9	2,276.6	2,500.7	2,770.7	3,000.2	3,171.9
0421	University education	1,085.9	1,196.7	1,293.4	1,385.2	1,500.6	1,544.1
0422	Other higher education	685.7	764.8	861.8	936.5	1,051.0	1,143.1
0423	Technical and further education	259.7	298.0	321.7	417.5	409.3	436.6
0429	Tertiary education, n.e.c.	14.5	17.1	23.8	31.4	39.2	48.1
043	Pre-school education and education not definable by level	86.3	93.7	99.0	104.8	94.4	84.6
0431	Pre-school education	36.5	37.1	37.7	38.0	22.1	6.1
0432	Special education	0.1	0.1	0.1	0.1	0.2	0.3
0439	Other education not definable by level	49.7	56.2	61.3	66.6	72.1	78.2
044	Transportation of students	3.6	4.1	4.6	5.3	5.4	6.2
049	Education, n.e.c.	20.1	17.0	16.5	18.1	13.4	54.4
	Total outlay on education	3,346.2	3,821.8	4,206.8	4,632.3	5,012.5	5,312.8
	Total outlay on all purposes	43,508.1	50,990.3	59,476.5	66,750.4	73,951.2	79,850.9
				—per cent—			
	Outlay on education as a percentage of total outlay	7.7	7.5	7.1	6.9	6.8	6.7

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University and Advanced Education Student Statistics, Australia, 1982 to 1984, Summary (4222.0)
Colleges of Advanced Education, Australia (4206.0)
University Statistics, Australia (4208.0)
Tertiary Education, Australia (4218.0)
Schools, Australia (4221.0)

Financial aspects are dealt with in the annual publications:
Commonwealth Government Finance, Australia (5502.0)
State and Local Government Finance, Australia (5504.0)
Expenditure on Education, Australia (5510.0)
Government Financial Estimates, Australia (5501.0)

Other Publications

Publications produced by the Department of Employment, Education and Training are:
Schooling in Australia: Statistical Profile
Census of Non-government Schools
Selected Higher Education Statistics
Selected TAFE Statistics
Education Participation Rates
The Australian Research Council Awards
TAFE 1990: Commonwealth Programs and Priorities
DEET Programs: Impact on TAFE
Department of Employment, Education and Training Annual Report

The annual reports of the respective State education departments also provide detailed statistical information.

11

LAW AND ORDER

The Law in Australia

Nature and composition

The laws of a country represent the common body of rules, whether proceeding from legislation, executive action, court judgments or custom, that a State or community recognises as binding on its citizens or members, and which are enforceable by judicial means. In Australia, the law consists basically of:

- Acts passed by the Federal Parliament acting within the scope of its powers under the Australian Constitution, together with regulations, rules and orders made under such Acts;
- Acts and Ordinances passed in respect of the Australian Capital Territory and the Northern Territory of Australia, together with regulations, rules and orders made under such Acts and Ordinances;
- Acts passed by State Parliaments and the Legislative Assembly of the Northern Territory, together with regulations, rules and orders made under such Acts;
- so much of the common or statute law of England that still applies to Australia and remains unrepealed; and
- the common law, consisting of judicial decisions.

These various laws relate to a number of subject matters, including constitutional law, criminal law, civil law, family law and industrial law.

Federal and State responsibilities

Under the Australian Constitution, the Commonwealth of Australia is empowered to make laws in relation to certain matters specified in the Constitution, e.g. in relation to trade and commerce, taxation, defence and external affairs. In relation to some of these matters, the powers of the Commonwealth are concurrent with those of the Australian States and Territories in that they may be exercised by either the Commonwealth or the States or Territories. In relation to some other specified topics the Commonwealth's power is absolute. In all areas of federal jurisdiction, Commonwealth laws are binding on the Australian States and Territories.

The Australian States and Territories have independent jurisdiction in all matters not specifically invested in the Commonwealth of Australia, and it is the statute and the common law of the States and Territories that primarily govern the day-to-day lives of most Australians. With certain exceptions, such as traffic laws, State and Territorial law normally applies only to persons who are residents of the State or Territory concerned and to things located, or events occurring, within that State or Territory.

The common law is uniform throughout Australia, although statute law often varies between the States and Territories. However, some of the problems arising from these differences have become recognised over recent years and wherever possible attempts are being made to enact uniform laws in areas of State and Territory jurisdiction.

Administration

Administration of the law in Australia is undertaken by the responsible government, principally through federal, State and Territorial police forces, the National Crime Authority, federal, State and Territorial courts, and State and Territorial corrective and penal services. There is no independent federal corrective service, and the relevant State or Territorial agencies provide corrective services for federal offenders.

The various Australian law enforcement agencies involved in the administration of law operate in such a way that the activities of one agency may affect the activities of another, e.g. a criminal offence reported to the police may lead to the arrest, charging and court appearance of the offender, and the subsequent provision of corrective treatment (e.g. imprisonment, probation) or welfare services. The agencies involved, and the relationship between them, may vary according to the laws, agencies and types of matters or offenders involved.

Law reform

Reform of the law is undertaken principally through Federal and State Parliaments, as well as Attorneys-General acting in some instances on recommendations made by State or Australian Law Reform Commissions, and by State Supreme Courts or Federal Courts.

Law Reform Commissions have been established as statutory authorities in all Australian States (except South Australia) to undertake review of State laws, and to report findings and recommendations for the reform of those laws to State Parliaments and Attorneys-General. (In South Australia, a Law Reform Committee was established by proclamation to perform similar functions in that State.) Additionally, in Victoria there is a Chief Justice's Law Reform Committee and a Victorian Legal and Constitutional Committee established under the *Parliamentary Committees (Joint Investigatory Committees) Act 1982*. These agencies have functions to recommend reform of the law. Acceptance of their recommendations depends upon governmental and parliamentary reaction to the proposals.

The Australian Law Reform Commission

The Australian Law Reform Commission commenced operations in 1975 under the *Law Reform Commission Act 1973*. The Commission was established to report on the review, simplification and modernisation of those laws concerning matters assigned by the Australian Constitution to the jurisdiction of the Federal Parliament, and to consider proposals for the uniformity of laws of the Australian States and Territories. The Commission is required to make reports arising out of such review or consideration to the Federal Attorney-General, and to make such recommendations as it thinks fit.

The Commission has assumed the functions formerly undertaken by the ACT Law Reform Commission, and has the responsibility for review of Territorial law operating in the Australian Capital Territory.

In undertaking its functions the normal procedure of the Commission is as follows. Upon receipt of a reference, the Commission advertises and calls for public submissions in relation to that reference, and prepares consultative papers examining the issues for distribution among groups thought to have a special interest in the subject matter under review. Public sittings are conducted, and, in the light of submissions received, a final report which usually contains draft legislation is prepared for submission to the Federal Attorney-General. The Commission, which consisted of three full-time, and nine part-time members at 30 June 1988, makes extensive use of honorary consultants.

To 1 September 1989, the Commission has completed reports on the following references:

- complaints against police;
- criminal investigation;
- alcohol, drugs and driving;
- consumers in debt;
- insolvency: the regular payment of debts;
- the recognition of Aboriginal customary law;
- unfair publication;
- defamation and privacy;
- sentencing of federal offenders;
- human tissue transplants;
- lands acquisition and compensation;
- insurance intermediaries;
- child welfare;
- insurance contracts;
- privacy;
- evidence;
- standing in public interest litigation;
- community law reform for the Australian Capital Territory (two reports);
- domestic violence;
- foreign state immunity;
- complaints against police (supplementary report);
- privacy and the Census;
- civil admiralty jurisdiction;
- contempt;
- matrimonial property;
- occupiers' liability;
- sentencing (Commonwealth Prisoners Act);
- general insolvency;
- grouped proceedings (class actions);
- enduring powers of attorney;
- criminal admiralty jurisdiction and prize;
- product liability.

Legislation following the recommendations contained in some of these reports has been enacted. In other cases, the proposals made by the Commission are under consideration by Federal Parliament or the appropriate Commonwealth department. Current references include customs and excise, multiculturalism, federal and territory choice of law rules, children's evidence, admiralty, and community law reform.

Federal Courts

The judicial power of the Commonwealth of Australia is vested in the High Court of Australia, in the federal courts created by the Federal Parliament and in the State courts invested by Parliament with federal jurisdiction. The nature and extent of the judicial power of the Commonwealth is prescribed by Chapter III of the Australian Constitution.

High Court of Australia

The Commonwealth of Australia Constitution Act provides that the judicial power of the Commonwealth should be vested in a 'Federal Supreme Court, to be called the High Court of Australia'. The Constitution requires that there shall be a Chief Justice and not less than two other Justices of the High Court. Today there are six other Justices. Originally, Justices were appointed for life. However, following an amendment to the Constitution in 1977, Justices appointed after that date retire at seventy years of age.

The High Court was established in 1903 and was originally based in Melbourne. However, since 1980, it has been principally located in Canberra, although it continues to visit the States regularly.

The Constitution vests two types of jurisdiction in the High Court: original, under sections 75 and 76; and appellate, under section 73.

Original jurisdiction is conferred by section 38 of the Judiciary Act in respect of:

(a) matters arising directly under any treaty;

(b) suits between States, or between persons suing or being sued on behalf of different States, or between a State and a person suing or being sued on behalf of another State;

(c) suits by the Commonwealth, or any person suing on behalf of the Commonwealth, against a State, or any person suing or being sued on behalf of a State;

(d) suits by a State, or any person suing on behalf of a State, against the Commonwealth or any person being sued on behalf of the Commonwealth; and

(e) matters in which a writ of mandamus or prohibition is sought against an officer of the Commonwealth of Australia or of a federal court. (However, the High Court shares some of its jurisdiction under this section with the Federal Court of Australia.)

The High Court is empowered by section 44 of the Judiciary Act to remit to another court any matters under Section 38 of that Act. In addition, the High Court is the Commonwealth Court of Disputed Returns under section 354 of the *Commonwealth Electoral Act 1918.*

The appellate jurisdiction of the High Court derives from the Judiciary Act, together with the *Federal Court of Australia Act 1976* and the *Family Law Act 1975*, and permits the High Court to grant leave to appeal from decisions of:

(i) State Supreme Courts;

(ii) State courts exercising federal jurisdiction;

(iii) the Federal Court of Australia; and

(iv) the Family Court of Australia.

In considering whether or not to grant an application for leave to appeal from a judgment, the High Court may have regard to any matters that it considers relevant, but it is required to have regard to whether the application before it:

involves a question of law that is of public importance, or upon which there are differences of opinion within, or among, different courts; or

should be considered by the High Court in the interests of the administration of justice.

The High Court is the final court of appeal in Australia.

Federal Court of Australia

The Federal Court of Australia was created by the *Federal Court of Australia Act 1976* and began to exercise its jurisdiction on 1 February 1977.

The Court consists of an Industrial Division and a General Division. Matters arising under the *Industrial Relations Act 1988* are dealt with in the Industrial Division and all other matters are dealt with in the General Division. The Court sits as required in each State, and in the Australian Capital Territory and the Northern Territory.

The Court has such original jurisdiction as is invested in it by laws made by the Federal Parliament. Except in cases where a hearing had actually commenced before 1 February 1977, the jurisdictions formerly exercised by the Federal Court of Bankruptcy and the Australian Industrial Court have been transferred to the Federal Court. Important jurisdiction in the Court includes matters under the *Administrative Decisions (Judicial Review) Act 1977* and certain matters under the *Trade Practices Act 1974*.

The Federal Court of Australia has been invested with original jurisdiction, concurrent with that of the High Court, with respect to matters in which a writ of mandamus or prohibition or an injunction is sought against an officer of the Commonwealth of Australia.

The full Federal Court of Australia has appellate jurisdiction in relation to decisions of single judges of the full Court, decisions of the respective Supreme Courts of the Territories (but not the Northern Territory), and certain decisions of State Supreme Courts exercising federal jurisdiction (for example, under the *Income Tax Assessment Act 1936* and the *Patents Act 1952*).

Family Law

The *Family Law Act 1975* which commenced operation on 5 January 1976, introduced a new law dealing with the dissolution and nullity of marriage, custody and welfare of the children, maintenance and the settlement of property between the parties to a marriage. The Act also created the Family Court of Australia as a specialist court dealing only with matrimonial and associated proceedings.

The main change made by the Act is that matrimonial conduct and fault are no longer taken into account as grounds for divorce. The Act provides that there is only one ground for divorce, that of irretrievable breakdown of a marriage. This ground is established if the husband and wife have separated and lived apart from each other for 12 months and there is no reasonable likelihood of reconciliation.

The provisions of the Family Law Act dealing with the maintenance, custody and welfare of children of a marriage have, since 1 April 1988, applied to all children (including ex-nuptial children) in New South Wales, South Australia, Tasmania, the Australian Capital Territory, the Northern Terrritory and Norfolk Island. In Queensland and Western Australia, the Family Law Act does not apply to ex-nuptial children, who are subject to State laws.

Proceedings under the Family Law Act are dealt with by the Family Court of Australia and by certain other courts in the States and Territories. Except in certain areas of Western Australia, Magistrates Courts and Courts of Petty Sessions have jurisdiction in all proceedings under the Act except for:

- proceedings for dissolution or nullity of marriage. (The courts in which an undefended application for dissolution may be instituted or heard have been limited by regulation);
- defended proceedings for custody or concerning property worth more than $1,000, unless the parties agree to the matter being heard by a Magistrates Court or Court of Petty Sessions.

A State Family Court has been established in Western Australia to deal with family law matters in that State. That Court applies the provisions of the Family Law Act in dealing with matters related to dissolution and nullity of marriages, the custody and welfare of children of marriages, and maintenance and property settlements.

Under the Family Law Act, great emphasis is placed on the counselling services available through the Family Courts to persons involved in proceedings, as well as to any persons who have encountered marriage problems or difficulties relating to the resolution of custody and access questions. It is not necessary to start proceedings to make use of these services.

A court exercising jurisdiction under the Family Law Act is required to have regard to the following principles:

- the need to preserve and protect the institution of marriage as the union of a man and a woman to the exclusion of all others, voluntarily entered into for life;
- the need to give the widest possible protection and assistance to the family as the natural and fundamental group unit of society, particularly while it is responsible for the care and education of dependent children;
- the need to protect the rights of children and to promote their welfare; and
- the means available for assisting parties to a marriage to consider reconciliation or the improvement of their relationship with each other and their children.

In relation to the guardianship and custody of children, the Family Law Act provides that both parents are guardians, and have, subject to a court order to the contrary, the joint custody of their children under 18 years of age. However, a parent, or another interested person, can apply to the Court for sole custody of a child even if no divorce has been sought at any time.

In disputes in which the welfare of a child is in issue, a child may be separately represented. The paramount consideration for the Court in the determination of all such disputes is the welfare of the child. A court is guided by statutory considerations, which include, where appropriate, the wishes of a child. Parents of a child may agree on custody and guardianship matters, and register their agreement in a court. In relation to the welfare of children a divorce decree usually will not become effective unless the Court is satisfied that proper arrangements have been made by the parties for the welfare of their children.

Under the Family Law Act, the right of one party of a marriage to receive maintenance from the other is based on the needs of the party seeking it and the ability of the other party to pay. An application for maintenance may be made by either husband or wife, and irrespective of whether or not the parties intend to divorce.

There are certain specific matters for the Court to consider when it is dealing with maintenance applications. These include:

- the age and state of health of the parties;
- the income, property and financial resources of each of the parties and their financial obligations;
- whether either party is entitled to superannuation;
- the length of the marriage and what is an appropriate standard of living for each party;
- whether either party has to care for children;
- the extent to which the marriage has affected the earning capacity of the applicant; and
- the possibility of the applicant taking on a training course or further educational course to improve his or her employment prospects.

The Act also provides for the registration of and court approval for maintenance agreements made by the parties.

Both parents of a child have a primary duty to maintain the child. This duty has priority over all other commitments of a parent other than commitments necessary for self support and support of any other person that they have a legal duty to maintain. The Court is guided by statutory considerations in deciding what order to make. Those considerations relate to the financial support necessary to maintain the child and the contributions each party should make to that financial support. A court is required to disregard the entitlements of the child or their parents to income tested pensions. In limited circumstances a court may make an order that a step-parent maintain a stepchild.

Since 1 June 1988, the Child Support Agency, an office established within the Australian Taxation Office, collects periodic child maintenance and some spousal maintenance for a wide range of persons, including pension recipients, sole parents who have separated since that date, or who have never cohabited with the parent of a child born since that date. The Child Support Agency uses maintenance collection and enforcement methods similar to those used for the collection and enforcement of income tax.

Since 1 October 1989 the *Child Support (Assessment) Act 1989* has provided a formula for the administrative assessment of maintenance by the Registrar of Child Support. The purpose of an administrative assessment is determination of maintenance. The scheme aims to ensure that parents share the cost of child support according to their capacity to pay and to provide for adequate support of children. The legislation applies only to children born after 1 October 1989, or those whose parents separate after that date. The new legislation does not prevent parents from reaching their own child maintenance agreements, or from seeking a judicial review of an administrative assessment.

The Court has power to settle disputes about the parties' family assets, including the power to order a transfer of legal interests in property. When dealing with these disputes, the Court considers the interest each party has in the property, the financial and non-financial contributions made by each party during the marriage, and the matters the Court is required to consider in dealing with maintenance applications.

The Family Law Act also established two statutory bodies that assist and advise the Attorney-General on family law matters. They are the Family Law Council, an advisory body that is based in Canberra, and the Australian Institute of Family Studies, a research body that is based in Melbourne.

Family Court of Australia

The judges of the Family Court are chosen because of their suitability to deal with matters of family law by reason of their training, experience and personality. Staff who are attached to the Court include trained counsellors and legally qualified Registrars and Deputy Registrars.

Proceedings under the Family Law Act in the Family Court are heard in open court, although persons may be excluded from the Court by court order. Some proceedings may be heard in chambers. No publicity that identifies the person or people involved in any proceedings under the Act is permitted unless otherwise directed by the Court. The publication of law court lists and law reports, or other publications of a technical character directed to the legal or medical professions, is exempted from this prohibition.

The Family Court aims to be a 'helping' court. The Principal Director of Court Counselling and a staff of court counsellors assist the parties to a marriage to settle their problems. This help is available whether or not the parties are contemplating divorce or other proceedings. These services complement those already provided by voluntary marriage counselling agencies. People may approach the Court counselling service by calling in person, by writing or telephoning, or by making an approach through a legal practitioner.

State and Territory Courts

Australian State and Territory courts have original jurisdiction in all matters brought under State or Territory statute laws, and in matters arising under Federal laws, where such matters have not been specifically reserved to courts of federal jurisdiction. Most criminal matters, whether arising under federal, State or Territory law, are dealt with by State or Territory courts.

Each State and Territory court system is organised and operated independently. However, within each system, the courts are organised hierarchically according to the nature of the matters with which they may deal.

Appeals

The various State County and District Courts and State and Territory Supreme Courts have jurisdiction to hear appeals against the decisions of lower courts and some specialist tribunals in their respective jurisdictions. The procedures concerning the right of appeal are laid down by statute in each State and Territory and appeals may be lodged against matters such as the correctness of the verdict or the severity of the sentence imposed.

Special courts and tribunals

Each Australian State and Territory administers particular areas of the law through specialist courts or tribunals, such as Small Claims Courts and Licensing Courts. These courts or tribunals deal primarily with civil matters or matters of an administrative nature.

Courts of Marine Inquiry

Matters which come within the jurisdiction of Courts of Marine Inquiry are contained in the federal *Navigation Act 1912*. The principal areas of these Courts' jurisdiction are to make inquiries into casualties, including missing ships and events entailing loss of life on or from ships.

When the Commonwealth Department of Transport and Communications is advised of an incident of the kind referred to above, the Minister for Transport and Communications may (and usually does) appoint an officer to conduct a preliminary investigation. The officer then conducts interviews with the parties involved and, based on the results of these interviews, advises the Minister as to whether or not the circumstances warrant a request by the Minister for a Court of Marine Inquiry to be convened. The Governor-General, by proclamation, establishes the Court of Marine Inquiry. Findings of the Court are forwarded to the Minister.

Statistics

Information relating to the operation of courts in particular Australian States may be obtained from the respective State *Year Books* and from ABS publications relating to criminal matters finalised in the Courts.

Administrative Bodies

Administrative Appeals Tribunal

The Administrative Appeals Tribunal was established by the *Administrative Appeals Tribunal Act 1975* and came into operation on 1 July 1976. Its President is a judge of the Federal Court of Australia. This tribunal is an independent body whose function is to review decisions made by Commonwealth Ministers, authorities and officials under certain laws of the Commonwealth of Australia. The Tribunal is able to substitute its own decisions in those areas in which it has jurisdiction, which covers decisions made under more than 200 Commonwealth enactments, including the *Social Security Act 1947*, the *Commonwealth Employees' Rehabilitation and Compensation Act 1988*, the *Migration Act 1958*, the *Customs Act 1901*, the *Export Market Development Act 1974*, the *Freedom of Information Act 1982*, the *Repatriation Act 1920*, the *Veterans' Entitlements Act 1986* and the *Civil Aviation Act 1988*. Further additions to the Tribunal's jurisdiction are made from time to time.

The Principal Registry of the Administrative Appeals Tribunal is situated in Brisbane and there are Tribunal Registries in each capital city.

The Administrative Review Council was also established by the *Administrative Appeals Tribunal Act 1975*. The principal functions of the Administrative Review Council are to make recommendations to the Attorney-General on rights of review of administrative decisions and on the procedures of administrative tribunals.

Administrative Decisions (Judicial Review) Act

The *Administrative Decisions (Judicial Review) Act 1977*, which came into operation on 1 October 1980, provides for judicial review in the Federal Court of Australia of administrative decisions taken under Commonwealth legislation. Where an order of review is sought by an aggrieved person, the Court is empowered to review the lawfulness of a decision, the conduct leading up to the making of a decision, or circumstances where there has been failure to make a decision. The grounds on which review may be sought and the powers of the Court are set out in the Act. In many cases, a person who is entitled to seek judicial review in respect of an administrative decision may seek a statement of reasons for the decision from the decision-maker.

Commonwealth Ombudsman

The Office of the Commonwealth Ombudsman was established by the *Ombudsman Act 1976* to investigate complaints about the administrative actions of Commonwealth Government departments and prescribed authorities. The Commonwealth Ombudsman also has special powers to deal with complaints concerning the Australian Federal Police, ACT government bodies, matters relating to service in the Australian Defence Force from serving and former members, and the administration of Commonwealth freedom of information law.

Complaints may be made to the Commonwealth Ombudsman orally or in writing. The Ombudsman has a discretion not to investigate or to discontinue investigation if the matter is more than 12 months old; if the complaint is vexatious or frivolous; if the agency concerned has not been given a reasonable opportunity to resolve the matter; if another more appropriate means of review is available; or if, in his/her opinion, investigation is not warranted.

The Commonwealth Ombudsman has extensive powers to require the production of documents and information. On completion of an investigation, consideration is given to whether the action in question was illegal, unjust, oppressive or improperly discriminatory, or, in all the circumstances, wrong. The Ombudsman may also assess and report on the reasonableness of any law, rule or policy under which the action was taken.

Should the Commonwealth Ombudsman conclude that remedial action is necessary, a report is made to the agency concerned and may include any recommendations he/she thinks fit to make. If the agency fails to comply with such a recommendation, the Ombudsman may report to the Prime Minister and to the Commonwealth Parliament.

The Commonwealth Ombudsman has regional offices in all States and Territories and a central office in Canberra. In Tasmania and the Northern Territory the Commonwealth Ombudsman is represented by the State Ombudsman.

The Human Rights and Equal Opportunity Commission

The Human Rights and Equal Opportunity Commission was established by the Commonwealth Government on 10 December 1986 and replaces the Human Rights Commission that had existed for the previous five years. The Commission's functions relate to the promotion of understanding, acceptance and public discussion of human rights in Australia, including those set out in the following United Nations instruments:

- the Convention Concerning Discrimination in Respect of Employment and Occupation;
- the International Covenant on Civil and Political Rights;
- the Declaration on the Rights of the Child;
- the Declaration of the Rights of Mentally Retarded Persons;
- the Declaration on the Rights of Disabled Persons;
- the International Convention on the Elimination of All Forms of Racial Discrimination; and
- the Convention on the Elimination of All Forms of Discrimination Against Women.

The Commission consists of a President, a Human Rights Commissioner, a Race Discrimination Commissioner and a Sex Discrimination Commissioner—the latter two Commissioners reflecting the basic human rights obligations and guarantees contained in the *Racial Discrimination Act 1975* and the *Sex Discrimination Act 1984* which confer specific functions on the Commission.

The major functions of the Commission include: the examination of proposed Commonwealth legislation to ascertain whether any provisions are inconsistent with, or contrary to, human rights; inquiry into practices that may be inconsistent with, or contrary to, human rights, and the settlement of matters arising therefrom by inquiry and conciliation or report to the Federal Attorney-General, as appropriate; undertaking research and educational programs relating to human rights; and the examination of international instruments to ascertain whether changes need to be made in domestic laws to comply with unconditional agreements to which Australia is a party.

The *Human Rights and Equal Opportunity Commission Act 1986*, which established the Commission, also empowers the Federal Attorney-General to enter into arrangements with the Australian States in relation to the performance on a joint basis of any of the Commission's functions; the performance by a State of any of the Commission's functions; or performance by the Commission of any functions on behalf of a State relating to human rights or discrimination in employment or occupation.

Where the Commission considers an amendment in federal law or practice is needed, the Commission is required to report to the Attorney-General and such reports are required to be made public by tabling in the Federal Parliament. The Commission is also required to furnish annual reports to the Attorney-General.

Freedom of Information Act

The *Freedom of Information Act 1982*, which came into operation on 1 December 1982, has two objectives:

- to make available to the public information about the rules, practices and operations of Commonwealth Government departments and authorities; and
- to create a general right of access to documents in the possession of Ministers and agencies.

In order to achieve these objectives the Act defines the rights of members of the public to obtain access to documents, and sets out a range of obligations and restrictions on departments and the public for exercising these rights.

The right of access does not extend to all documents. Exempt are:

- certain documents to which the *Archives Act 1983* applies;
- documents affecting national security, defence, international relations and relations with States;
- Cabinet and Executive Council documents;
- internal working documents (subject to certain limitations on what may be exempt);
- documents affecting enforcement of the law and protection of public safety;
- other documents exempt by reason of secrecy provisions of other enactments, financial or property interests of the Commonwealth, personal privacy, legal professional privilege, etc.;
- documents made available for purchase or open access upon payment of a fee; and
- documents created before 1 December 1977.

However, there are two exemptions to this last restriction on access:

- a person has a right of access to documents created before 1 December 1977, necessary to the understanding of a document already legally in that person's possession; and

- individuals have the right of access to documents which pre-date the commencement of the Act by up to five years, providing that the documents relate to the individual.

The public is not required to provide reasons for requesting access to documents. However, all requests under the Act should be in writing and provide such information concerning the document as is reasonably necessary to enable a responsible officer to identify the document. Where a person wishes to make a request, or has made a request that does not comply with the provisions of the Act relating to requests for access, it is the duty of the agency to take reasonable steps to assist the person to make the request in a manner that complies with the Act.

Provisions exist whereby a person may apply to have an amendment made to information relating to that person's own personal affairs.

The Act contains extensive provisions for review of decisions made under the Act, including review by the Administrative Appeals Tribunal and the Commonwealth Ombudsman.

Commonwealth Royal Commissions

Australian Governments have from time to time established Royal Commissions to inquire into, and report on, matters of public concern.

A Royal Commission is established by the Governor-General, on the advice of the Prime Minister, by issuing a commission to a person or persons to inquire into and report on specified matters. At the end of its inquiry, a Royal Commission presents its report to the Governor-General for consideration by the government. These reports are usually tabled in the Commonwealth Parliament.

The power to issue Letters Patent to inquire is a prerogative of the Crown. The *Royal Commissions Act 1902* confers powers on a Royal Commission to compel the attendance of persons, the giving of evidence, and the production of papers. It also creates a number of offences (e.g. failure to attend a Royal Commission when summoned, or failure to produce papers) and gives some protection to Commissioners and witnesses against legal liability. The constitutional foundation of the Royal Commissions Act is section 51(xxxix) of the Constitution, which provides that the Commonwealth Parliament may make laws with respect to 'matters incidental to the execution of any power vested by this Constitution in the Parliament or in either House thereof, or in the Government of the Commonwealth, or in the Federal Judicature, or in any department or office of the Commonwealth'.

LETTERS PATENT ISSUED FROM 1.7.84 TO 30.6.88

Name of Royal Commission	*Commissioner(s)*	*Date of issue of Letters Patent*
Royal Commission into British Nuclear Tests in Australia	THE HON J.R. McCLELLAND MRS J. FITCH DR W.J.A. JONAS	16 July 1984
Royal Commission of Inquiry into Alleged Telephone Interceptions	THE HON. MR JUSTICE D.G. STEWART	29 March 1985
Royal Commission of Inquiry into Chamberlain Convictions	THE HON. J.R. MORLING	2 April 1986
Royal Commission into Grain Storage, Handling and Transport	MR JAMES CARVELL McCOLL	13 October 1986

LETTERS PATENT ISSUED FROM 1.7.84 TO 30.6.88—*continued*

Name of Royal Commission	*Commissioner(s)*	*Date of issue of Letters Patent*
Royal Commission into Deaths in Custody of Aboriginals and Torres Strait Islanders	THE HON. J.H. MUIRHEAD	16 October 1987
	THE HON. J.H. MUIRHEAD	21 December 1987
	THE HON. J.H. MUIRHEAD	6 May 1988
	THE HON E.F. JOHNSTON, QC	6 May 1988
	THE HON. J.G. WOOTTEN, QC	6 May 1988
	MR L.F. WYVILL, QC	6 May 1988
	THE HON. J.H. MUIRHEAD	27 October 1988
	THE HON. E.F. JOHNSTON, QC	27 October 1988
	THE HON. J.G. WOOTEN, QC	27 October 1988
	MR L.F. WYVILL, QC	27 October 1988
	THE HON. D.J. O'DEA	27 October 1988
	THE HON. D.J. O'DEA	7 December 1988
	THE HON. J.H. MUIRHEAD	27 April 1989
	THE HON. E.F. JOHNSTON, QC	27 April 1989
	THE HON. J.G. WOOTTEN, QC	27 April 1989
	MR L.F. WYVILL, QC	27 April 1989
	THE HON. D.J. O'DEA	27 April 1989
	MR P.L. DODSON	28 June 1989

FINAL ROYAL COMMISSION REPORTS PRESENTED FROM 1.7.84 TO 30.6.88

Name of Royal Commission	*Date of presentation*	*Tabled in Parliament*
Royal Commission on the Activities of the Federated Ship Painters and Dockers Union	26 October 1984	22 February 1985
Royal Commission on Australia's Security and Intelligence Agencies	20 December 1984	22 May 1985
Royal Commission of Inquiry into Activities of the Nugan Hand Group	28 June 1985	27 November 1985
Royal Commission on the Use and Effects of Chemical Agents on Australian Personnel in Vietnam	31 July 1985	22 August 1985
Royal Commission into British Nuclear Tests in Australia	20 November 1985	5 December 1985
Royal Commission of Inquiry into Alleged Telephone Interceptions	30 April 1986	1 May 1986
Commission of Inquiry into Compensation Arising from Social Security Conspiracy Prosecutions	30 April 1986	10 June 1986
Royal Commission of Inquiry into Chamberlain Convictions	22 May 1987	2 June 1987
Royal Commission into Grain Storage, Handling and Transport	18 February 1988	15 March 1988

National Crime Authority—NCA

The National Crime Authority was established by the Commonwealth Government in July 1984 as provided by the *National Crime Authority Act 1984*. Similar legislation was passed in each State and the Northern Territory to underpin the work of the NCA in those jurisdictions, making the NCA the only law enforcement agency in Australia whose investigations are not limited by jurisdictional or territorial boundaries.

The NCA operates from three offices, in Melbourne, Sydney and Adelaide, and has a permanent staff of around 300, with qualifications and expertise in a variety of fields including law, accounting and information analysis. In addition, police investigators are attached to the NCA from the Australian Federal Police and the Northern Territory and State police forces, for varying periods.

The decision to establish the NCA was taken in response to the findings of several Royal Commissions conducted in the late 1970s and early 1980s, which revealed the extent of organised criminal activity in Australia. The NCA's primary aim is therefore to take effective action to combat organised crime in Australia, but the term 'organised crime' is not in fact used in the *National Crime Authority Act 1984*, which instead describes such activity in terms of 'relevant criminal activity' and 'relevant offence'.

A 'relevant offence' is defined as one involving two or more offenders and substantial planning and organisation, that involves the use of sophisticated methods and techniques, is of a kind ordinarily committed in conjunction with other like offences, and involves theft, fraud, tax evasion, currency and company violations, illegal drug dealings, bribery, illegal gambling, extortion, violence, passport forgery, armament dealings and other specified offences.

As required by the Act, the NCA carries out general and special functions in relation to relevant criminal activities.

General—The NCA is required to collect, analyse and disseminate information and intelligence; undertake general investigations; and initiate the establishment of and coordinate the work for Commonwealth, State and joint task forces.

Special—The NCA is required to investigate matters covered by references issued to it by members of the Inter-Governmental Committee, which is comprised of ministers of the Commonwealth, Northern Territory and State governments.

In conducting a general or special investigation, the NCA is required to assemble admissible evidence relating to offences against the laws of the Commonwealth, States or Territories to enable the prosecution of offenders and to provide that evidence to the appropriate Attorney-General or relevant law enforcement agency, such as the Director of Public Prosecutions.

Information may be passed to prosecution authorities to enable such agencies to pursue civil remedies or other action to confiscate the proceeds of criminal activity.

The NCA may also make recommendations to relevant ministers for law or administrative reform.

Apart from the normal powers of a law enforcement agency, the NCA may use special powers when it has been given a reference by a member of the Inter-Governmental Committee. These powers include the power to issue summonses and conduct in-camera hearings at which witnesses are required to give evidence or produce documents, and the power to seek the delivery to the NCA of the passport of a person who has been summonsed to appear at a hearing, but who is suspected of seeking to leave Australia.

The work of the NCA is monitored by the Inter-Governmental Committee and by the Parliamentary Joint Committee on the NCA. The Act provides for the review by the Federal Court of certain decisions, and other decisions are subject to review pursuant to the *Administrative Decisions (Judicial Review) Act 1977.* The NCA is required to submit to the Inter-Governmental Committee an annual report which is subsequently tabled in the Commonwealth Parliament.

Consumer affairs

The Commonwealth involvement in consumer affairs derives substantially from the *Trade Practices Act 1974.* The Federal Attorney-General has responsibility for Part V (Consumer Protection) of the Act which deals with unfair practices, provides private law rights against sellers, manufacturers and importers, and provides for product safety (including provision for the banning and/or recall of goods considered to be unsafe) and information standards.

The Federal Bureau of Consumer Affairs, located in the Attorney-General's Department:

- provides the Minister for Consumer Affairs with advice on the consumer protection provisions of the Trade Practices Act and on a range of consumer issues;
- reviews and develops Commonwealth policy on domestic food and beverage standards, recalls and consumer product safety;
- reviews and develops Commonwealth policy on packaging and labelling; and
- administers product safety and information standards of the Trade Practices Act, including monitoring and enforcing compliance with standards and initiating product recalls if necessary (Division 1A, Part V).

The National Consumer Affairs Advisory Council provides independent advice to the Minister for Consumer Affairs on consumer affairs issues. The members of this Council have backgrounds in consumer affairs, industries, trade unions and government.

The Trade Practices Commission, a statutory body, is generally responsible for the enforcement of the Trade Practices Act, except for Division 1A Part V of the Act which is the responsibility of the Federal Bureau of Consumer Affairs. The Commission receives complaints from consumers but is primarily concerned with issues of national significance. The activities of the Trade Practices Commission are distinct from those of Australian State and Territory consumer affairs agencies, which administer their own legislation and provide the principal consumer complaint handling mechanisms.

Coordination of consumer affairs activities is undertaken by the Standing Committee of Consumer Affairs Ministers and through meetings of Officers of Consumer Affairs. There is also a Commonwealth–State Consumer Products Advisory Committee to provide a coordinated approach to product safety and information matters.

In addition to this, the Australian Federation of Consumer Organisations receives an annual grant under the Commonwealth's Grant-in-Aid Scheme. The Australian Federation comprises a membership of 56 consumer and community groups and was established with Federal sponsorship to represent the consumer view to all levels of Australian government and industry. A grant-in-aid is also provided to the Australian Financial Counselling and Credit Reform Association which provides advice and information concerning credit, debt recovery, insolvency and law reform.

Legal Aid

The purpose of providing legal aid is to ensure that no person involved in a legal dispute or action should be without legal assistance by reason of not being able to pay for it, and is based on the notion of justice and equity before the law.

Legal aid in Australia is delivered through a variety of schemes operated at Federal, State and local levels. The principal schemes are those of the Australian Legal Aid Office, the legal aid commissions (which operate in five States and the Australian Capital Territory) and the Aboriginal legal services. In addition there are numerous community based legal aid agencies and certain law society schemes.

It is now the policy of the Commonwealth Government that legal aid other than that given by Aboriginal legal services and voluntary and community agencies be provided in each State and Territory through a single independent statutory commission, established by State or Territory legislation. Under this policy, legal aid is provided by both salaried and private lawyers and funded by the Commonwealth of Australia in federal matters. The States continue to fund legal assistance provided in relation to State matters. Pursuant to agreements between the Commonwealth and the States, independent statutory commissions providing legal advice and assistance in both federal and State matters have been established in Queensland, South Australia, Victoria, Western Australia and the Australian Capital Territory. A statutory commission has also been established in New South Wales, but its functions do not extend to federal matters. Legal aid commissions have not yet been established in Tasmania and the Northern Territory, and in these places, as well as New South Wales, the Australian Legal Aid Office continues to provide legal advice and assistance in federal matters.

The Commonwealth Attorney-General administers a growing area of legal assistance in special federal areas outside the scheme of independent statutory commissions. This assistance is provided under various Commonwealth Acts (such as the *Conciliation and Arbitration Act 1904*, *Administrative Appeals Tribunal Act 1975* and the *Trade Practices Act 1974*) and administrative schemes (e.g. aid for Public Interest and Test Cases and for cases involving the recovery of children who have been illegally removed overseas).

Selected details of the income and expenditure of major Australian Legal Aid schemes and further information on the operation of these schemes are available from Annual Reports of the former Commonwealth Legal Aid Council and the Commonwealth Attorney-General's Department.

The Police

The principal duties of the police are the prevention and detection of crime, the protection of life and property, and the enforcement of law to maintain peace and good order. In addition, they may perform a variety of other duties in the service of the State, including the regulation of street traffic, acting as clerks of petty sessions, Crown land bailiffs, foresters, mining wardens and inspectors under the Fisheries and other relevant Acts. With the exception of the Australian Federal Police, police forces in Australia are under the control of the respective State and Northern Territory governments, but their members perform certain functions on behalf of the Australian Government, such as the registration of aliens, and, in conjunction with the Australian Federal Police and other Commonwealth officers, they enforce various Commonwealth Acts and Regulations.

Australian Federal Police—AFP

The Australian Federal Police was formed in October 1979 and has its headquarters in Canberra, with regional offices in each capital city and in a number of provincial towns and cities.

The AFP is the primary law enforcement agency for the Commonwealth. It is responsible for providing police services in relation to the laws and property of the Commonwealth, and the safeguarding of Commonwealth interests. The priorities of the AFP as listed in its charter of objectives include investigations into drug trafficking, organised crime, large-scale fraud against Commonwealth revenue, specific references from the Government (e.g. corruption), Australian Capital Territory policing and counter-terrorism.

In the Australian Capital Territory, the AFP provides a full range of general policing services, including traffic control, special operations, search and rescue services and conventional crime investigations.

From 1984 to 31 July 1988, the AFP was also responsible for the direction and coordination of Australia's coastal surveillance, response and enforcement. Following a

Government decision the function was transferred to the Australian Customs Service with effect from 1 August 1988.

The AFP also posts officers for duty overseas. Officers are located in liaison posts in Bangkok, Buenos Aires, Chiang Mai, Hong Kong, Interpol in Lyons, Islamabad, Jakarta, Kuala Lumpur, London, Los Angeles, Manila, Nicosia, Singapore, Washington and Wellington. These liaison officers play a vital role in gathering and exchanging information. The Australian National Central Bureau of the International Police Organisation (ICPO—Interpol) in Australia is staffed by AFP officers as a service to all Australian law enforcement agencies. The AFP also has a contingent based in Cyprus and two members at the Thailand-Cambodia border as a component of the United Nations Peace-keeping Force, and officers serve as members of the police forces of the Australian Territories of Christmas Island and Norfolk Island.

Police strengths

The total active strength of the sworn police forces, expressed as a proportion of the population, has remained steady from 1982 to 1988 at approximately 220 police for every 100,000 people. The following table shows the active strengths of non-civilian police personnel in police forces in Australia from 1986 to 1988. Further detail on the operations of each force may be found in the respective police annual reports to their Ministers.

POLICE FORCES

Year	*AFP(a)*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*
At 30 June—								
1986	2,568	10,743	8,732	4,872	3,492	3,168	1,025	669
1987	2,642	11,608	8,796	5,072	3,646	3,287	1,010	681
1988	2,713	12,280	9,229	5,085	3,549	3,243	1,028	748

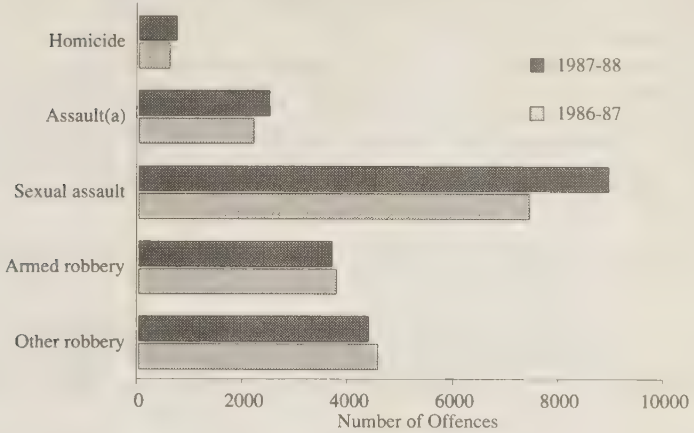
(a) Excludes protective services units.

Crime Statistics

The compilation of statistics on crime involves recording and classifying a diversity of acts considered to be criminal. Responses to the 1983 Crime Victims Survey, conducted by the Australian Bureau of Statistics, indicated that only about 59 per cent of household victimisations and 44 per cent of personal victimisations were reported to police, and although the extent of reporting of crime may vary from time to time according to the amount of public attention focussed on particular aspects of crime, there will always be some degree of underreporting.

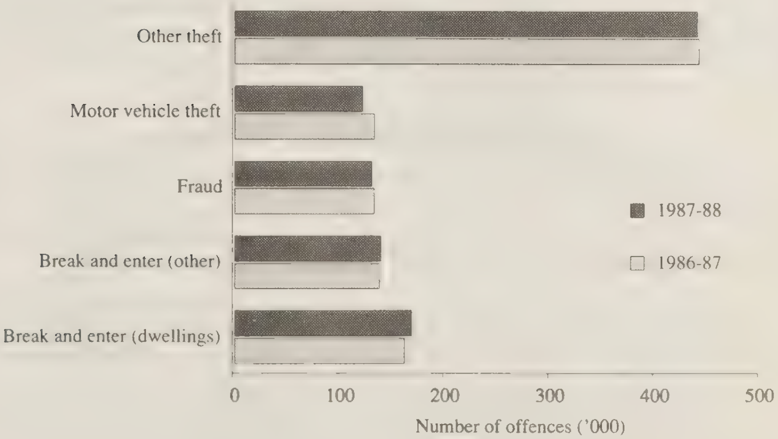
The following charts of selected offences show the numbers of offences in certain categories of crime which were reported to the police for the two years to 30 June 1986 and 30 June 1987. Not all jurisdictions employ the same definitions when classifying offences and the figures should therefore be treated with caution. However, the movements in figures from year to year are an indicator of the movements in levels of crime reported to the police.

SELECTED OFFENCES AGAINST THE PERSON, AUSTRALIA 1986-87 AND 1987-88



(a) Assaults occasioning grievous bodily harm.

SELECTED OFFENCES AGAINST PROPERTY, AUSTRALIA 1985-86 AND 1986-87



Source: Taken from the Selected Crimes Statistics Australian series, compiled by the Police Commissioners' Australian Crime Statistics Sub-committee.

Drug offences

Australia ratified the Single Convention on Narcotic Drugs 1961 in December 1967, and the Protocol Amending the Single Convention on Narcotic Drugs on 22 December 1972. Australia is also a signatory to the Convention on Psychotropic Substances 1971, and there is cooperation between Federal, State and Territory Governments, the various police forces, and other agencies in order to combat the perceived serious and growing threat to good order which is posed by the traffic in and abuse of drugs of dependence. The Australian Customs Service has responsibility for the enforcement of laws controlling the illicit importing and exporting of drugs, but each police force has a drug squad or squads, staffed by selected officers with special training and ability to understand the complexities of drug abuse and drug trafficking. Drug laws incorporate the controls and penalties for offences as required by international drug conventions.

The following table provides information about selected drug seizures by Federal agencies during the period from 1982 to 1987.

SELECTED DRUG SEIZURES BY FEDERAL AGENCIES

Type of drug	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*
			—grams—			
Opium	81.87	1,129.50	40.00	760.00	167.00	48.00
Heroin	32,014.40	97,071.65	101,550.00	57,886.00	30,937.00	60,202.00
Cocaine	8,924.87	8,797.49	13,100.00	12,801.00	21,581.00	10,226.00
Cannabis—all types*(a)*	2,530,066.37	1,725,455.28	6,912,860.00	3,129,588.00	2,987,766.00	540,046.00

(a) Excludes seizures of plants.

Further information on the widespread problems arising from drug abuse in Australia, and how these problems are being approached, may be found in the annual report 'Illicit Drugs in Australia', compiled by the Australian Federal Police and published by the Australian Government Publishing Service.

Correctional Treatment of Offenders

The term 'correction' (or its derivatives) as used here refers to the treatment of offenders within the justice system.

While there is a variety in the types of correctional activities employed in each State and Territory, such activities can be broadly categorised into two groups:

- non-continuing forms of treatment, where, if the offender meets the requirements set by court, then correctional agencies would not normally become actively involved. Examples of these forms of treatment are fines, bonds, and recognisances without supervision.
- continuing forms of treatment, where the offender is subject to some form of control by a correctional agency, usually for a specified period. This control may take the form of:
  - (i) full time custody, as in the case of persons detained in prisons, or other institutions; or
  - (ii) non-custodial treatment involving conditions to be observed by the offender, e.g. probation and parole. In recent years there has been a trend towards the greater use by courts of non-custodial treatment of offenders. This has seen the development of a range of programs such as periodic/weekend detention, attendance centre programs, and community service, under which the offender is at liberty in the community, but is required to report for weekend detention, training, counselling, or to perform unpaid work in the community.

Separate provisions exist in each State and Territory for the treatment of juvenile offenders, and courts and correctional agencies have a wide choice in the types of correctional treatments available to them. Both custodial and non-custodial correctional activities are employed, but greater flexibility allows treatment to be more closely aligned to individual requirements.

All States and the Northern Territory operate prisons and other correctional services. Convicted adult prisoners from the Australian Capital Territory serve their sentences in New South Wales prisons, but local provision is made for the short-term custody of remand prisoners, and for probation and parole services. The Federal Government does not operate any prisons or other correctional services, and Federal offenders (i.e. persons convicted of offences under federal laws) fall within the jurisdiction of State agencies for correctional purposes.

Prison occupancy

The Australian Institute of Criminology publishes the results of an annual prison census which is coordinated by the National Correctional Statistics Committee. The census relates to all persons, convicted or not convicted, who were held in custody in gazetted Australian prisons, for adult offenders on the night of 30 June, and includes those prisoners temporarily absent from prison (e.g. prisoners in hospitals, or away on work release schemes).

Because the census measures prison occupancy at a particular point in time, care should be taken when comparing the results with other data produced on prison populations, which may be related to average daily occupancy rates. Discrepancies may also be found between the census figures and those produced from the same data by corrections departments, because of differences in counting rules.

Data for the following tables on prison occupancy were supplied by the Australian Institute of Criminology from the results of the 1988 prison census.

NUMBER OF SENTENCED PRISONERS BY TYPE OF SENTENCE IMPOSED(a), AUSTRALIA 1988(b)
(*Source*: Australian Institute of Criminology)

Type of sentence	*Number of prisoners*
Life	616
Governor's Pleasure	97
Administrative(*b*)	2
Indefinite(*c*)	4,306
Fixed term	4,869
Fine default only	235
Periodic detention	422
Unknown	64
Total	*10,611*

(*a*) Type of sentence is determined by the cumulative effect of all sentences imposed. (b) Includes unsentenced prisoners subject to deportation orders. (c) Refers to cases where both a minimum and a maximum term are set and the actual sentence to be served lies somewhere between the two limits.
NOTE: This table excludes all remandees.

NUMBER OF PRISONERS BY MOST SERIOUS OFFENCE/CHARGE (a), BY AGE (b), AUSTRALIA

(*Source:* **Australian Institute of Criminology**)

	Age group									
Offence/charge(a)	*Under 20*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50+*	*Unknown*	*Total*
					—Total persons—					
Homicide	48	227	252	219	160	147	93	138	11	1,295
Assault	95	272	212	132	91	53	26	33	11	925
Sex offences	55	200	215	203	153	136	80	102	13	1,157
Other against person	6	19	22	18	19	12	3	4	0	103
Robbery	96	483	433	300	152	68	22	13	1	1,568
Extortion	0	4	8	4	2	2	1	0	0	21
Break and enter	288	747	499	220	106	39	19	14	6	1,938
Fraud and misappropriation	14	69	112	95	79	70	47	57	0	543
Receiving	11	64	51	43	22	12	7	5	0	215
Other theft	218	430	217	131	63	43	16	23	5	1,146
Property damage	30	54	30	23	6	13	3	3	0	162
Environmental	—	—	1	—	—	—	—	—	—	1
Government security	—	—	—	—	1	2	1	—	—	4
Justice procedure	59	215	157	90	43	33	13	21	6	637
Offensive behaviour	1	2	6	3	0	1	0	2	0	15
Unlawful possession of weapon	4	9	18	11	7	1	2	0	0	52
Other offences against good order	8	29	19	14	12	3	3	3	3	94
Possession, use of drugs	12	35	56	61	32	24	12	6	0	238
Trafficking drugs	10	94	196	231	185	118	70	58	0	962
Manufacture drugs	1	15	26	33	27	22	13	14	0	151
Driving offences	27	99	84	83	55	41	24	18	11	442
Administrative offences	47	116	78	65	35	18	10	13	4	386
Other traffic offences	3	9	8	2	0	0	1	0	0	23
Other offences	10	4	15	15	9	11	6	7	2	79
Unknown	17	38	32	32	19	15	7	4	0	164
Total persons	*1,060*	*3,234*	*2,747*	*2,028*	*1,278*	*884*	*479*	*538*	*73*	*12,321*

(a) The most serious offence/charge is that offence for which a prisoner received the longest sentence, or that charge which carries the longest statutory maximum penalty. *(b)* The age at which a convicted person would normally become liable to imprisonment in an adult prison varies from State to State, being seventeen years in Victoria, Queensland, Tasmania and Northern Territory, and eighteen in other jurisdictions, although younger persons convicted of a particularly serious offence may be sent to an adult prison. Inmates of juvenile corrective institutions are not included in this census.

NOTE: This table includes 1,638 remandees.

NUMBER OF SENTENCED PRISONERS BY MOST SERIOUS OFFENCE (a) AND AGGREGATE SENTENCE (b), AUSTRALIA 1988
(*Source*: **Australian Institute of Criminology.**)

	Duration of aggregate sentence						
Offence	*Periodic detention*	*Under 3 months*	*3 months and under 2 years*	*2 and under 5 years*	*5 and under 10 years*	*10 years and over(c)*	*Total*
Homicide	14	2	11	48	129	861	1,065
Assault	52	26	307	189	145	71	790
Other offences against the person	17	2	62	264	495	284	*(d)*1,126
Robbery	10	—	36	241	586	435	*(d)*1,309
Extortion	1	—	—	8	3	4	16
Break and enter	35	13	591	649	330	67	1,685
Fraud and misappropriation	32	9	209	171	70	13	504
Receiving	7	9	103	41	22	7	189
Other theft	64	38	613	237	57	19	1,028
Property damage	8	6	48	41	20	6	129
Offences against good order	17	62	346	193	72	40	730
Drug offences	62	30	189	270	326	237	1,114
Driving offences	48	95	281	21	2	5	*(d)*453
Administrative offences	55	38	273	8	2	1	377
Other offences	0	3	37	23	25	8	96

(a) Most serious offence is that for which a prisoner received the longest sentence. *(b)* The longest period that a person may be detained under sentence in the current episode. *(c)* Includes sentences of Life and Detention at the Governor's Pleasure. *(d)* Total includes 'unknown'.
NOTE: This table excludes all remandees.

Criminological Research

Australian Institute of Criminology

The Australian Institute of Criminology, which is located in Canberra, was established as a statutory authority under the *Criminology Research Act 1971* and the *Criminology Research Amendment Act 1986*. The Institute is administered by a Board of Management comprising three members appointed by the Federal Attorney-General, four members representing the States and the Northern Territory, who are appointed by the Criminology Research Council and the Director, who is an ex officio member of the Board.

The functions of the Institute, as defined in the Criminology Research Acts include:

- the conduct of criminological research (i.e. research in connection with the causes, prevention and correction of criminal behaviour and related matters), and the communication of the results of such research to the Commonwealth and States;
- the provision of advice on needs and programs relating to criminological research, and advice and assistance in relation to any research funded through the Criminology Research Council;
- the conduct of seminars and courses of training and instruction for persons engaged in criminological research or work related to the prevention or correction of criminal behaviour;
- the collection and dissemination of statistics relevant to crime and criminal justice;
- the provision of advice in relation to the compilation of statistics in relation to crime; and
- the publishing of material resulting from, or relating to, its activities.

Since its inception, the Institute has actively assisted in and advised on an extensive range of criminological research projects either directly, or through the Criminology Research Council. The Institute has conducted or been represented at numerous national and international conferences dealing with crime related matters. In addition, the Institute maintains a comprehensive library of criminological material which is available to researchers and criminal justice practitioners.

Major recent publications of the Institute include:

- *Australian Community Based Corrections* edited by David Biles and John Walker
- *Australian Prisoners, 1988* edited by John Walker
- *Death and Injuries on the Road* Paul Wilson and R. Homel
- *Information Bulletin 1986*
- *Ivory Scales: Black Australia and the Law* edited by Kayleen M. Hazelhurst (published in association with the University of New South Wales Press)
- *Migration, Ethnicity and Crime in Australian Society*, Kayleen M. Hazelhurst
- *Sex, Violence and Family Entertainment, An Analysis of Popular Videos* Stephen Nugent, Paul Wilson, Terry Brook and David Fox
- *Corrections in Asia and the Pacific* Proceedings of the Eighth Asian and Pacific Conference of Correctional Administrators, Kuala Lumpur, September 1987
- *Court Support and Advisory Services* edited by Jane Mugford
- *Crime at School* edited by Dennis Challinger
- *Intellectually Disabled Offenders*, edited by Dennis Challinger.
- *A Computer Forecasting Model for predicting requirements for beds in secure custody juvenile correction institutions* Joe Pasmore and John Walker
- *Armed Robbery* edited by Dennis Challinger
- *Australian Criminal Justice and Welfare Librarians Seminar* edited by John Myrtle
- *Australian Drug Laws* edited by Anita Scandia
- *Australian Institute of Criminology Annual Report*
- *Australian Prisoners 1987* edited by Francois Debaecker
- *Crime Prevention: Theory and Practice* Susan Geason and Paul Wilson
- *Criminology Research Council Annual Report*
- *Designing Our Crime: Crime Prevention through Environmental Design* Susan Geason and Paul Wilson
- *Developments in Correctional Policy: More Prisons?* edited by Julia Vernon
- *Fraud in the Public Sector* edited by J. Nethercote, D. Challinger and H. McKenna
- *Police Resources and Effectiveness* edited by Julia Vernon and Dorothy Bracey
- *Record of the 9th Annual Asian-Pacific Conference on Corrections*
- *Sentencing Drug Offenders in the ACT* Heather Dean
- *Source Book of Australian Criminal and Social Statistics: 1804–1988* edited by S.K. Mukherjee et al.
- *Sport, Recreation and Juvenile Crime* Gail Mason and Paul Wilson
- TRENDS AND ISSUES
    - No. 16: *Efficiency and Effectiveness in Australian Policing*
    - No. 17: *Research Brief: Missing Persons*
    - No. 18: *Alcohol and Crime*
    - No. 19: *Life Imprisonment in Australia*
    - No. 20: *Prison Sentences in Australia*
- *Victims of Violence* Peter Grabosky, Monograph No. 2 from the National Committee on Violence
- *Vietnamese Refugees: Crime Rates of Minors and Youths* Patricia Easteal
- *Violence in Australia*: Monograph No. 1 from the National Committee on Violence
- VIOLENCE TODAY
    - No. 1: *Violence, Crime and Australian Society*
    - No. 2: *Domestic Violence*
    - No. 3: *Child Abuse*
    - No. 4: *Violence in Sport*
    - No. 5: *Violence and Public Contact Workers*

Criminology Research Council

The Criminology Research Council is comprised of representatives from the Commonwealth, each State and the Northern Territory and is an independent body corporate established under the *Criminology Research Act 1971*. The Council is responsible for the control and administration of the Criminology Research Fund, which is funded fifty per cent by the Federal Government, and fifty per cent by State governments on a proportionate population basis. Subject to the Council's assessment of a project, persons seeking to conduct criminological or related research may be provided with a grant from the fund.

In its first fifteen years of operation, the Council has provided grants for over 150 separate research projects, covering nearly all aspects of crime and criminal justice in Australia, to a total of approximately two million dollars.

Bankruptcy and Copyright

Bankruptcy

Particulars of bankruptcy in each State to the end of 1927 were incorporated in issues of the *Year Book* before No. 23. On 1 August 1928, the first Bankruptcy Act of the Commonwealth came into operation. This Act as amended was repealed by the *Bankruptcy Act 1966* which came into operation on 4 March 1968.

The Federal Court of Australia, and a number of State courts and the Supreme Court of the Northern Territory, are all invested with jurisdiction in bankruptcy. In practice, the Federal Court exercises bankruptcy jurisdiction in the districts of New South Wales and the Australian Capital Territory, Victoria, South Australia, Western Australia, and the Southern District of Queensland. In the Central and Northern Districts of Queensland, and in Tasmania and the Northern Territory, the jurisdiction is exercised by the respective Supreme Court of the State or Territory.

The Bankruptcy Act provides for an Inspector-General in Bankruptcy who has a range of statutory functions under the Act. In particular, the Inspector-General shall carry out inquiries and investigations at the direction of the relevant Minister, and such other inquiries and investigations as the Inspector-General thinks fit. The Act also provides for a Registrar in Bankruptcy to be appointed for each of the nine Bankruptcy Districts in Australia, and for so many Deputy Registrars in Bankruptcy as are necessary. Each Registrar and Deputy Registrar has such powers and functions as are conferred or imposed on a Registrar by the Act. Powers and functions of an administrative nature are exercisable by the court as the court directs or authorises the Registrar to exercise. The Registrar may examine a bankrupt, the spouse of a bankrupt, and a person indebted to a bankrupt or having in his or her possession any of the estate or effects of a bankrupt.

There is an Official Receiver for each District and the Official Receivers together constitute a body corporate known as the 'Official Trustee in Bankruptcy'. The Official Trustee is the trustee in bankruptcy in approximately 80 per cent of the bankrupt estates occurring each year. In the remaining 20 per cent the trustee is a registered trustee in bankruptcy from the private sector.

Comprehensive statistics on bankruptcy are included in the Annual Report on the Operation of the *Bankruptcy Act 1966* which is laid before each House of Parliament pursuant to section 314 of the Act.

Copyright

Copyright in Australia is administered by the Commonwealth Attorney-General's Department, and is regulated by the Commonwealth Copyright Act 1968 which came into force on 1 May 1969. The Act does not contain any provisions requiring or enabling the completion of formalities (such as publication, registration or the payment of fees) in order to obtain copyright protection in Australia. Protection is granted automatically from the moment of making a work or other subject matter.

The Act has been amended from time to time. The *Copyright Amendment Act 1980* and the *Statute Law (Miscellaneous Provisions) Act (No. 2) 1984*, in particular, contain substantial changes in a number of areas including fair dealings, copying by libraries and archives, and copying for educational purposes and for handicapped readers.

The *Copyright Amendment Act 1984* makes specific provision for copyright in computer software.

The Principal Act was further amended in 1986 and 1987 to, among other things:

- significantly strengthen the 'anti-piracy' provisions of the Act;
- increase access to copyright materials for the handicapped, as well as for libraries, archives and their clients;
- extend fair dealing;
- make clear the fact that broadcasts via satellite are subject to the Act; and
- provide for costs in Copyright Tribunal matters to be calculated on the Federal Court of Australia scale of costs.

Most recently, the Act was amended in a number of significant respects. A package of copyright reforms, described by the Attorney-General as the most substantial since 1968, was contained in the *Copyright Amendment Act 1989*.

The reforms include a new statutory licensing scheme to allow educational institutions and institutions for the intellectually handicapped to copy television and radio broadcasts. As well, the Act introduced a revised scheme for educational photocopying along the same lines as the television copying scheme.

The Act also contains a blank tape royalty scheme under which home taping of published sound recordings will be lawful. The royalty will be payable by manufacturers and importers of blank tape, to the copyright owners' collecting society which is currently being formed. These schemes will come into effect after collecting societies are established and the necessary regulations have been made.

The new legislation gives effect to the majority recommendations of the Copyright Law Review Committee in relation to performers' protection. Accordingly unauthorised commercial uses of live performances and recordings of live performances are prohibited under the Copyright Act. The new provisions will also enable Australia to accede to the Rome Convention for the Protection of Performers, Producers of Phonographs and Broadcasting Organizations, which is an important Convention in the international framework of copyright protection.

The Act also:

- limits copyright protection for artistic works industrially applied and designs registered under the *Designs Act 1906*;
- streamlines the operation of the statutory licence under the Act for the manufacture of records of musical works; and
- introduces a number of other reforms which will extend the right of the Australian Archives to copy works in its archival collection, standardises rights of review under the Act by the Administrative Appeals Tribunal and facilitates copyright protection for choreographic works made in the form of film or video.

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12

CULTURE, RECREATION, ENVIRONMENT AND TOURISM

Culture is essential to a shared sense of quality of life, and takes many forms. At a national level these forms range across cultural heritage, creative and performing arts, film and video, radio and television, sports and games, language and religious practice, adult education, active attachment to custom and place, and activities around the conservation and enjoyment of the natural environment.

Tourism is closely bound to cultural life. Cultural venues and events attract visitors; events and institutions are linked both to tourist patronage and to support from local populations; while a general perception of cultural vitality is an important factor in drawing visits from overseas.

This chapter reviews cultural activity supported by the Commonwealth and its agencies, and by national non-government cultural organisations.

Statistics on travel and tourism, complementing the monitoring and promoting role of government, are also included.

CULTURAL HERITAGE

Australia's heritage is drawn from cultural environments, both built and natural, in all their aspects. The built environment includes Aboriginal sites of all types—from cave paintings to fish-traps and carved trees. Historic places such as old residential and commercial buildings, shipwrecks, parks and gardens are also included. The natural environment ranges from national parks, nature reserves, habitats of endangered species and wilderness areas, to outstanding geological features and landscapes. Sites and objects of scientific, archaeological and social importance are also included.

The functions of identifying, cataloguing, surveying, conserving and protecting the national heritage are shared between governments and statutory authorities, with assistance from community organisations, such as the National Trusts in each State, and individuals.

Consolidated statistics relating to cultural heritage are not available, although information on specific funding programs, such as the National Estate Grants Program, and discrete activity by individual organisations is published in various annual reports and, for broader sectors, through the reports of special inquiries.

The Register of the National Estate, compiled and maintained by the Australian Heritage Commission, is the national list of all those parts of Australia's natural, historic and Aboriginal heritage which should be kept for present and future generations.

Governments support delineation and conservation of heritage material through the funding of public collections, the establishment of statutory authorities charged with providing policy advice and undertaking or sponsoring research, and administration of grants in support of heritage related activity.

While the Commonwealth Government works in partnership with State and Territory governments, it also undertakes heritage activities on its own account where implications of these actions go beyond State or local boundaries; for example the nomination of sites for world heritage listing, the protection of Aboriginal heritage and advice about proposals which might affect the National Estate. These functions are administered by, respectively, the Department of the Arts, Sport, the Environment, Tourism and Territories; the Aboriginal and Torres Strait Islander Commission; and the Australian Heritage Commission.

Aboriginal Cultural Heritage

History

Aborigines have lived in Australia for at least 40,000 years. As pre-settlement Aborigines left no written records, deduction from archaeological and anthropological evidence is the principal process in amending and advancing new theories about their history.

Aborigines are generally thought to have originated on the south-east Asian mainland and to have come to Australia over an island network that existed during the last Ice Age. The sea was then much lower and the greatest distance between islands probably only 60 kilometres. The sea travel that was undertaken by these early migrants is believed to be the earliest evidence of sea navigation by humankind.

Some scientists suggest, on the findings of early human skeletal types, that there may have been two or more migrations of different peoples who eventually merged to become modern Australian Aboriginals.

For tens of thousands of years Australia was isolated from the island archipelagos to its north. In this time the Aborigines developed a materially simple but highly complex culture.

Aborigines lived as hunter-gatherers, often moving in a seasonal pattern between permanent or semi-permanent encampments. The types of foods hunted and collected varied widely but studies of Aboriginal foods have concluded that traditional diets were often highly nutritious and well balanced.

Groups of people who spoke a common language held hunting rights and religious sanction over particular areas. The size of the pre-colonial Aboriginal population is not known with accuracy, but estimates range from 300,000 to more than one million. At the start of the colonial period there were about 200 languages and many more dialects.

Despite their linguistic diversity, Aborigines shared central themes in their traditions. They saw humankind as part of nature. They identified, in a variety of forms, great creatures, heroes of a creation era generally referred to as the Dreamtime, which travelled through the land giving it form.

Although groups were bound to their local environment by systems of belief expressed in oral tradition, art, songs, dance and social relationships there is evidence of long distance travel. Aborigines had disciplined societies with complex kinship structures. Authority within small groups was held by older people who had earned the right to enforce laws.

Archaeology

Governor Arthur Phillip was the supervisor of the first excavation in Australia in 1788 when he had an Aboriginal gravesite opened and presumed from the ashes found that Aborigines cremated their dead.

But the archaeology of Aboriginal Australia did not become established as an academic discipline until the 1960s and the appointment of John Mulvaney to the chair of prehistory at the Australian National University in Canberra.

Since that time there has been a vigorous growth in the amount of archaeological research carried out in Australia.

Evidence has led to the general acceptance that Australia has been occupied by humans for at least 40,000 years. A fossilised skull found in the Willandra Lakes area in South Australia has been dated, using the electron spin resonance (ESR) technique, as being between 30,000 and 50,000 years old.

Other claims have been made for an antiquity for human occupation in Australia in excess of 100,000 years, but the claims are not proven or widely accepted.

One of the more recent, is the claim of Dr Gurdip Singh from the Australian National University that a core from the bed of Lake George near Canberra, which shows a sudden increase in burning about 120,000 years ago, is evidence of human activity.

Dr Steve Webb of Bond University, who found a human skull fragment in the Lake Eyre region in 1988, has claimed that the fragment might be as old as 130,000 to 150,000 years. Analysis of the fluorine content of the bone fragment showed that it might be contemporary with extinct giant creatures which roamed Australia in the ice age.

Aboriginal people have been indicating for a long time that they wish to have control of their own heritage and a number of Aboriginals have conservation and ranger jobs. There are a growing number of Aboriginal students of museum studies, conservation and prehistory.

Australian archaeology is now taking its place on the world stage and its practitioners are increasingly being invited to participate in overseas publications, forums and conferences.

The contributions which Australian archaeologists are making are recognised as of relevance to global questions concerning human evolution, adaptation and cultural development. This is a far cry from 10 or 20 years ago when Australia was little more than a footnote in world prehistory.

Australian Institute of Aboriginal Studies

The Australian Institute of Aboriginal Studies was established by the Commonwealth Parliament in 1964. Its functions are to promote Australian Aboriginal and Torres Strait Islander studies in areas such as the arts, education, languages, health, history, archaeology, sociology and anthropology.

Based in Canberra with a staff of 57, the Institute's affairs are conducted by a 22 member council, while day to day business is directed by the Principal.

The Institute is now central to Aboriginal studies research. It is the largest library resource centre for information about the traditional and contemporary cultures and life styles of Aboriginal and Torres Strait Islander people. Tapes, pictures and photographs which are unique records of Aboriginal and Torres Strait Islander culture are preserved in environmentally controlled vaults.

The Institute supports research through the provision of grants and the employment of research staff, including visiting research fellows, and publishes some of the works resulting from the research and material from other sources. It publishes books on all aspects of Aboriginal studies: microfiche, musical recordings on disc and cassette, a twice yearly journal, an annual bibliography of material accessioned into the library and an annual report.

The Institute's film unit has been responsible for producing or sponsoring a wide variety of ethnographic films. The unit has also expanded into video production.

Aboriginal heritage protection

The Aboriginal and Torres Strait Islander Commission has responsibility for the administration of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

The Act preserves and protects places, areas and objects of particular significance to Aboriginal tradition. Initially enacted as interim legislation in June 1984, the Act was amended during 1986 to remove the clause relating to its expiration two years after enactment. The Act was amended in 1987 to incorporate provisions for the preservation of Aboriginal cultural heritage in Victoria.

The legislation complements existing State and Territory laws, and is intended to be used only as a last resort where those laws do not provide effective protection from injury or desecration for significant Aboriginal areas and objects.

Aboriginal art

Australian Aboriginal art represents possibly the oldest living continuous art tradition in the world and is the product of a culture which has developed over a period in excess of 40,000 years. Traditionally art was, and is, integrated with community life and the spiritual beliefs of Aboriginal people. The various forms of artistic expression, the visual arts, music, song and dance are inextricably connected and often serve to represent and enhance sacred stories and beliefs about the spirit ancestors who created and shaped the land and who gave to their descendants all sacred law, customs and ritual. *See also* Aboriginal Cultural Activity within this chapter.

National Estate

The Commonwealth Government, in conjunction with States and Territories, actively seeks the protection of Australia's national estate.

Australian Heritage Commission

The Australian Heritage Commission, established under the *Australian Heritage Commission Act 1975*, advises the Commonwealth Government on the protection of the National Estate. In summary, its responsibilities are to:

- prepare and maintain a register of national estate places;
- advise the Minister of the Arts, Sport, the Environment, Tourism and Territories on all matters relating to the national estate; and
- develop policies and programs for research, professional training and public education.

The Australian Heritage Commission consists of a part-time chairman and up to six part-time commissioners with interests in the natural and cultural environment. The Commission is supported by a secretariat located in Canberra.

In 1988–89, the Commission's appropriation was $2.6 million, with a human resource allocation of 28 staff years.

Register of the National Estate

The Commission's major task is the development of the Register of the National Estate.

The term 'national estate' is a very broad-ranging concept. In the legislation, the national estate is defined as:

> . . . those places, being components of the natural environment of Australia, or the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present generation.

It thus consists of all those places which have been identified as worth keeping and handing on to future generations. Such places include wildlife habitats, natural ecosystems, landscapes of great beauty, grand buildings and structures, humble dwellings, work places, ruins, sites of historic events and Aboriginal places such as dreaming tracks, rock art sites, ceremonial and archaeological sites. Portable objects, such as paintings and works of art are not included.

At 30 June 1989, the number of places in the Register of the National Estate totalled 8,824. Another 232 places were included in the Interim List.

Advising the Federal Government

The Commission recommends to its Minister, currently the Minister for the Arts, Sport, the Environment, Tourism and Territories, possible action required where major national estate areas are threatened; and provides advice to other Federal Ministers and agencies inter alia:

- under Section 30 of the Act, where other Commonwealth agencies may be proposing actions which could have an impact on a place in the Register;
- on foreign investment proposals which could affect places in the Register;
- on the disposal of Commonwealth property where registered places could be involved;
- on environmental impact statements; and
- on other major national estate issues.

National Estate Grants Program

This Program is the Commonwealth Government's major financial contribution to the conservation of the National Estate and some $44 million has been allocated to more than 3,200 projects since the NEGP was introduced in 1973. The Program is designed to help the States and Territories, and organisations within them, to conserve the national estate. It operates by means of agreements between the Commonwealth and each State and the Northern Territory.

The Program is coordinated by the Australian Heritage Commission which has regular contact with State and Territory authorities responsible for heritage matters. The Australian Heritage Commission uses consequent documentation in its compilation and maintenance of the Register of the National Estate.

Under current arrangements, State and Territory governments have the primary responsibility for developing and administering their respective programs.

Project work is carried out by State and Territory government departments and authorities, local government bodies, academic institutions, national trusts, professional and community organisations as well as by individual consultant firms working for them.

A major undertaking during 1987–88 was the updating and refinement of the criteria upon which the Commission assesses nominations to the Register of the National Estate and decides whether or not to list them.

During the year, the Commission allocated almost $200,000 under its own small research program, the Australian Heritage Research Program. It also spent $250,000 on its community relations program which is designed to increase public awareness of National Estate issues. Activities under the latter program included educational resources, publications, film production, workshops and seminars, the establishment of a national bibliographical database, HERA, and the operation of a small specialised library.

Australian Heritage Research Program

In 1983, the Australian Heritage Commission established the Australian Heritage Research Program (AHRP) to fund major national surveys and deserving projects which directly assist the Commission to carry out its statutory role.

The objectives of the AHRP are to:

- increase understanding and further knowledge of the National Estate;
- identify and document places of national estate significance;
- improve documentation on places that are part of the National Estate;

- generate, through studies, nominations of places for entry in the Register of the National Estate;
- conserve, improve and present the National Estate; and
- further training, education and information exchange on national estate issues.

During 1988–89, the Commission allocated $217,000 to projects under this Program.

National Trusts

The National Trust bodies were set up to further the conservation of lands, buildings, works and articles which are of heritage importance because of educational, aesthetic, historic, architectural, artistic, scientific, cultural or other special interests.

The first Trust, the National Trust of Australia (New South Wales), was formed in 1945. Since then, Trusts have been formed in each State, the Northern Territory and the Australian Capital Territory.

Membership of the National Trusts is open to all individuals and organisations. Total membership throughout Australia is approximately 80,000.

About 300 properties are owned or controlled by the Trusts. These properties include houses, nature reserves, gardens, two paddle steamers and an iron barque, an historic hamlet, and buildings which were formerly a telegraph station, a stock exchange, a powder magazine, a market, an inn, a police station, a court house, a gaol and a joss house.

The various Trusts have established heritage registers which collectively list more than 23,000 places throughout Australia including buildings, urban areas, landscapes and industrial sites.

Historic shipwrecks

Around Australia's coastline lie many old shipwrecks of historic value. The oldest recorded shipwreck in Australian waters is that of the *Tryall* (1622), an English whaling vessel which sank off Western Australia.

Vessels which navigated oceans to reach Australia for trade, commerce and transport carried all the necessities to sustain life for the voyage. Many such vessels were wrecked and have been preserved to a greater or lesser degree in the seabed environment and are thus time-capsules revealing the customs and skills of an earlier age.

Notable examples are the old Dutch wrecks off Western Australia, the *Batavia* (1629), *Gilt Dragon* (1656), *Zuytdorp* (1712) and *Zeewijk* (1727) and the British ships HMS *Sirius* (1790), wrecked off Norfolk Island and the *Pandora* (1791), wrecked on the Great Barrier Reef.

Shipwrecks provide direct evidence of the exploration of Australia, of the first industries such as sealing, whaling and trading, and of the perils facing convicts and migrants who voyaged to Australia. Relics of international maritime heritage are worthy of protection, conservation and study. Their importance for education, recreation and tourism is recognised by the Commonwealth *Historic Shipwrecks Act 1976* which applies to the coastal waters off all Australian States and Territories. Under this Act, any person finding the remains or relics of a previously unreported ship must notify its location to the Commonwealth Minister for the Arts, Sport, the Environment, Tourism and Territories. If the wreck is declared as being 'historic', the Minister is empowered to pay the finder a reward not exceeding $50,000.

Protection of Movable Cultural Heritage

The *Protection of Movable Cultural Heritage Act 1986* provides safeguards for the retention of important elements of national cultural heritage by requiring export permits for all objects of cultural significance which owners wish to send or take out of the country.

One category of objects, the loss of which would cause irreplaceable damage to Australia's cultural heritage, will not be allowed to leave, namely objects of Australian Aboriginal and Torres Strait Islander heritage comprising bark and log coffins, human remains, rock art, and carved trees.

Objects that may be exported (temporarily or permanently) at the discretion of the Minister of the Arts, Tourism and Territories include:

- archaeological and ethnographic objects;
- Aboriginal heritage objects;
- objects of geological, scientific or technological interest;
- military objects;
- pieces of decorative art, fine arts, books, film and sound recordings;
- numismatic and philatelic objects;
- objects of social history.

National Collections

The Commonwealth has maintained extensive collections since Federation. The establishment of the Historic Memorials Committee in 1911 and the establishment of the Australian War Memorial and the Australian Institute of Anatomy in the mid 1920s signalled acceptance by the Commonwealth Government of its role to acquire, display and maintain national collections. The collections of the Parliamentary and National Libraries had a similar early start.

Almost all government institutions since Federation have maintained collections in recognition of the nation's development and cultural identity, and of the value which future generations would place on them. Even comparatively new institutions such as the Australian National Gallery, the National Museum of Australia and the National Film and Sound Archive have origins going back some considerable time.

Australian War Memorial

The Australian War Memorial commemorates Australian servicemen and women who died as a result of wars or war-like operations, from the Sudan campaigns to Vietnam. The Memorial building opened in Canberra in 1941.

The commemorative area includes the glass-mosaic Hall of Memory, cloisters containing bronze panels of the Roll of Honour bearing 102,000 names, and the courtyard in which there is a Pool of Reflection and the Eternal Flame. The names of the 30 main theatres of war in which Australian forces served are inscribed around the courtyard. The national Anzac Day and Remembrance Day services attended by the Governor-General are held at the Stone of Remembrance in front of the building. Other wreath-laying ceremonies are also conducted at the Commemoration Stone in the courtyard.

The Memorial also fulfils its commemorative role by being a significant museum, art gallery, and centre of research into Australian military history. It also houses one of Australia's finest military bookshops. The Memorial's vast and varied collections include over 50,000 war relics ranging from aircraft to commemorative badges, 25,000 works of art including oils, watercolours, drawings, sculptures and posters, as well as extensive valuable official and personal documents and audio-visual records. The Memorial houses 50 Victoria Crosses, the largest such collection in the world. The War Memorial and its surrounds were entered in the Register of the National Estate in 1981, and attract approximately one million visitors each year.

Australian National Botanic Gardens

The Australian National Botanic Gardens occupy a 90 hectare site on the lower slopes of Black Mountain in Canberra. Over 40 hectares of this site are developed at this stage. Officially opened in 1970, they comprise the largest living collection of Australian native plants with over 6,000 species in cultivation. The associated herbarium houses over 193,000 specimens. An annexe of approximately 80 hectares was established at Jervis Bay in 1951 for research to cultivate frost tender plants under more favourable conditions than those prevailing in Canberra, and to establish a collection of native plants representative of the flora of the Jervis Bay region. There are over 400,000 visits to the Gardens each year.

An Information Centre containing displays, leaflets and a bookshop, educational facilities and the Banksia Centre, with its special garden and activity programs for disabled people, are part of the community services offered by the Gardens to international, interstate and local visitors.

Horticultural, botanical and biological research is an important aspect of the Gardens' activities and special emphasis is placed on the study and cultivation of endangered species. The Australian Cultivar Registration Authority is also based at the Gardens.

The Australian Biological Resources Study (ABRS) which publishes the *Flora of Australia* and the *Fauna of Australia* is based at the Gardens.

Australian National Gallery

The Australian National Gallery in Canberra was established in 1975. The building was officially opened in 1982 and houses the National Collection which can be viewed in 11 main galleries over three levels.

The objective of the Australian National Gallery is to increase awareness, appreciation and understanding of the visual arts by developing and maintaining a National Collection of works of art in all media and across all geographic boundaries. The Australian National Gallery interprets that Collection and other collections to present a range of programs in the Gallery and elsewhere for the enjoyment, education and stimulation of all Australians.

It is the aim of the Australian National Gallery to acquire single works of art or collections of undisputed excellence. The Collection will, in the fullness of time, show Australian art against the art of the rest of the world. The Australian National Gallery seeks to make the National Collection accessible to all Australians.

Australian Art

This collection is comprehensive and represents the highest achievements of Australian Aboriginal artists and the continuing traditions of their art. It also represents the history of Australian art from the time of European settlement to present day. All major figures and movements including fine and applied arts, architecture and design, and folk art are represented.

Western Art

The collection of international art seeks to provide some experience of the greatest achievements of Western Art for the benefit of those Australians who may never see such works elsewhere.

Attention is given to works which mark moments of change, innovation or summation of artistic styles. The collection covers all media and places particular emphasis on documenting contemporary art (post 1930).

Prints and illustrated books

The Gallery is building a comprehensive collection of graphic art of the last 200 years.

Photography collection

This collection is divided into two parts of equal importance, Australian and International.

Arts of Oceania, Africa and the Americas

This collection is designed to show the characteristics of the art of Melanesia, Micronesia, Polynesia, Africa, Pre-Columbian America, the North American Indians and Inuit, to reveal an art different in scope, expression and feeling from the Western tradition and the traditions of Asian art.

Asian Art

This collection represents both the fine arts and tribal arts of Asian, the Middle-East, and South-East Asia.

National Museum of Australia

The National Museum of Australia was established under the *National Museum of Australia Act 1980*. In 1983 the developmental plan was accepted in principle by the Commonwealth Government which also selected a site of 88 hectares in Canberra. On current planning the museum is expected to open in 2001.

The Museum is a unique concept as a museum of national history which will have three main themes: the history of the Australian Aboriginal people; the history of non-Aboriginal people; and the interaction of people with the Australian environment. Planning of the Museum's long-term development and its exhibition and acquisitions programs in particular have reflected the essentially inter-related and complementary nature of these themes.

In September 1986 the Museum's Visitor Information Centre was opened to the public. A discovery trail has also been developed along a scenic part of Lake Burley Griffin adjacent to the Museum site.

For further details on the National Museum of Australia *see* the special article within *Year Book Australia* No. 72.

Australian National Maritime Museum

In June 1985 the Australian Government announced plans to establish a National Maritime Museum at Darling Harbour, Sydney. Its objective is to increase knowledge, appreciation and enjoyment of Australia's past and continuing involvement with the sea through the acquisition, preservation and presentation of Australian maritime history, including floating exhibits berthed at wharves:

- *Akarana*—An 1888 gaff rigged racing cutter and New Zealand's Bicentennial gift to Australia;
- *John Louis*—a pearling lugger;
- *Krait, Advance* and *Vampire*—a commando raider, patrol boat and a destroyer representing the RAN;
- *Hong Hai*—a Vietnamese 'boat people' fishing vessel.

At the Museum's opening in late 1990 there will be six exhibition themes: Discovery—the finding of Australia; Passengers—the long sea voyage; Commerce—the working sea; Navy—protecting Australia; Leisure—sun, surf and sails; and Australia/USA—linked by the sea.

National Science and Technology Centre

In 1980 Australia's first hands-on science centre—Questacon—was established in Canberra under the auspices of the Australian National University. It attracted a great deal of attention nationally and this eventually resulted in the establishment of the National Science and Technology Centre.

In 1984 the Australian Bicentennial Authority (ABA) submitted a proposal to the Government for the establishment of a national science centre and suggested that the Japanese nation be invited to consider, as its Bicentennial gift, contributing to its construction thus making it a joint Australia—Japan bicentennial project. The Japanese accepted the invitation and their Government contributed $5 million towards the cost of the building and this was matched by a similar amount from the Japanese private sector. The total capital cost of the building was $19.6 million.

In June 1985 the Government agreed to proceed with the establishment of a National Science and Technology Centre in Canberra. Construction commenced in June 1986 and the Centre was opened to the public in October 1988 with the official opening ceremony held on 23 November 1988. The building is located in Canberra's Parliamentary triangle only a short distance from the new and old Parliament Houses. It stands close to the shores of Lake Burley Griffin near the National Library of Australia, the High Court and the Australian National Gallery.

In September 1988 Questacon closed its doors and its contents, goodwill and Explainer staff transferred to the new Centre. The Centre contains five galleries each of which currently contains a separate interactive exhibition. There is a 220 seat lecture theatre, large workshop for the construction and maintenance of exhibits, a science shop and a cafeteria.

During its first twelve months of operation the Centre has attracted approximately 500,000 visitors. In addition the Centre has reached a wider audience through the operations of the Questacon Science Circus—a travelling exhibition which began in 1985. Since then the Circus has travelled extensively around Australia.

The Centre has already demonstrated that it is a powerful tool for influencing public thinking about science and technology. The Centre has only just begun to make its presence felt both in the national capital and, more importantly, throughout Australia. Its role is to continue to provide entertaining and instructive ways of introducing people to scientific concepts through the medium of interactive exhibits. The Centre's philosophy is to show the relevance of scientific concepts by illustrating how they are used in our society.

Archives and Records

While general interest in archives in Australia was aroused following the celebration of the centenary of the colony of New South Wales in 1888, it was not until the twentieth century that measures were taken for the preservation, storage and servicing of original records. Initially, major libraries throughout Australia undertook the collection of historical records from both official and private sources. Today, archives and records organisations exist for government records at Commonwealth and State level. Some State and Territory archives were established, since 1961, as separate authorities (New South Wales, Victoria, South Australia, Tasmania and the Northern Territory). Others still operate broadly under State library control.

In addition, archives have been established by some churches, business corporations, universities and city councils. The Australian War Memorial collects private material concerning Australians at war and is also a custodian of certain official Commonwealth records relating to wars or war-like operations. Other corporate and private records continue to be collected by some of the State archives offices, libraries and universities.

Many of these bodies in the archives or records field are members of the Australian Council of Archives which provides a means of promoting cooperation on issues of common concern.

Australian Archives

The need for a Commonwealth archival agency was recognised in 1943 when the Curtin Government appointed both the Commonwealth National Library and the Australian War Memorial as provisional archival authorities. In 1952, the Commonwealth National Library became the sole Commonwealth archival authority, and in 1961 the Archives Division of the Library was reconstituted as a separate agency known as the Commonwealth Archives Office. At this time, the Archives Office became responsible for the evaluation, disposal and preservation of Commonwealth records, for taking into custody all records no longer required for immediate reference and for regulating access to those records by research workers and other members of the public. In 1974, the Commonwealth Archives Office was renamed the Australian Archives and a Director-General was appointed in 1975. By 1974 regional offices had been established in all State capitals and in Darwin and

Townsville. Services to government agencies and the public are available from this regional network. The central office of the Australian Archives is located in Canberra.

The *Archives Act 1983*, which came into effect on 6 June 1984, provides the Archives with a statutory basis for its operations and institutes arrangements for the management and proper disposition of the vast body of records created by Commonwealth agencies, past and present. The Act provides for the gathering and provision of information about Commonwealth agencies and their records; the means by which the disposal of records is authorised; and for the storage and preservation of records.

By providing a legislatively based system of public access covering Commonwealth records more than 30 years old, the Archives Act complements the provisions of the *Freedom of Information Act 1982*. Together, these two Acts provide a comprehensive system of public access covering all classes of Commonwealth records.

In 1987, following changes in Administrative Arrangements, the Australian Archives was placed within the Administrative Services portfolio. This change reflects the Australian Archives' role as a central service agency with responsibility for the Commonwealth government program concerning the management of all records generated by Commonwealth administration since Federation.

The Records Information Service (RINSE), a database of information about the structure and function of government agencies and their records, is held on the Australian Archives' computer and forms the basis of its finding aids. Information held on the database is accessible on-line (to Archives' staff) and in computer-output-microfiche format. The microfiche forms the body of the first part of the Australian National Guide to Archival Material (ANGAM I) which serves as the main public finding aid. A separate database, ANGAM II, covers the public access status of items held by the Australian Archives, the Australian War Memorial and other Commonwealth agencies. It is available on microfiche and on-line to the public for item and subject searches.

Work continued in 1988–89 on the loading of information about the War Memorial's holdings for presentation in the microfiche ANGAM III, which will complement ANGAM I. Investigations about the possible extension and enhancement of the database continued. In 1988–89 work also continued on the refinement of the computerised Physical Control System (PCS) implemented in 1987–88. PCS documents and provides a range of management information on the quantity, type, location, retrieval activity and destruction of records transferred to the Archives' custody.

At 30 June 1989 Australian Archives' holdings throughout Australia totalled 452,420 shelf metres of records, including 138,390 metres of permanent value material. In 1988–89, 2,325 official reference inquiries from agencies were received, 335,332 items were lent or returned to departments and authorities and 209,326 were consulted by officials in the repositories. During the same period 17,230 public reference inquiries were received and 27,897 items were consulted by the public in search rooms. The Australian Archives had an average staffing level of 383 for the year 1988–89.

National Film and Sound Archive—NFSA

The National Film and Sound Archive was established by the Commonwealth Government in April 1984 and is located in the former Institute of Anatomy building in Canberra. The NFSA collects and preserves the moving image and recorded sound heritage of Australia, and provides a range of access services to the media industry, researchers, educators and the public.

The NFSA collection includes: 500,000 radio and gramophone discs; 50,000 film and television productions; 800,000 posters, still photographs, documents and related items; 50,000 film, radio and television scripts; 19,000 phonograph cylinders; 30,000 audio tapes; 15,000 piano rolls.

LIBRARY SERVICES

The Commonwealth supports a range of library services in areas not otherwise served by State systems. These include a concentration of functions appropriate to the national reference, curatorial and bibliographic services provided by the National Library of Australia, and more specialised services provided from other government departments.

National Library of Australia

The National Library of Australia was formally established in Canberra in 1961 when, by Act of the Australian Parliament, it was separated from the Commonwealth Parliamentary Library. The objectives of the library are to increase awareness, appreciation and understanding of Australia's cultural heritage through the development, preservation and promotion of the national collection of library materials; and to support the information and reference needs of Australian society by providing equitable access to nationwide information services and by fostering the coordinated development of those services both nationally and internationally.

The collections

The National Library collects Australian and overseas material giving emphasis to areas of the world of major significance to Australia's own political, social, economic and technological development. The collection currently contains 4.389 million volumes, including microform equivalents, together with 199,172 serial titles; 39,742 paintings, drawings and prints; 508,234 photographs; 7,799 shelf metres of manuscripts; 140,922 music scores; 387,734 maps; 22,644 films and video cassettes; and over 44,100 oral history and folklore tapes.

The Library has notable Australiana collections, such as the Petherick collection acquired in 1911, the Cook manuscripts acquired in 1923, together with other significant collections including the Mathews ornithological collection, the Ferguson collection, the O'Neill collection of children's literature, plays and personal papers of playwright David Williamson, entertainer Robyn Archer, the poet A.D. Hope and the political papers of Dame Dorothy Tangney. The Esso Research Fellowship in the Performing Arts was funded in 1988 to establish the Archive of Performing Arts at the Library. The Library is a major partner in, and coordinator of, the Australian Joint Copying Project, which microfilms records relating to Australia, held in Great Britain and Europe.

A particular focus is given to the region, with Asian, South-East Asian and Pacific collections of world class. Other notable collections include the Harold S. Williams collection of western language material on the opening up of Japan, the McLaren/Hume collection on Korean history, the Luce collection on Burma, and the Tooley collection of rare maps of Australia and South-East Asia.

National bibliographic control

The Library is responsible for developing and maintaining the collection of printed material published in Australia, acquired under the deposit provisions of the Copyright Act 1968, and as the national bibliographic centre compiles and publishes the *Australian National Bibliography* (ANB). The Library is the Australian National Centre for the International Serials Data System (ISDS) which assigns International Standard Serial Numbers (ISSN) to Australian serials, and the Australian Agency for International Standard Book Numbers (ISBN). The Library's cataloguing-in-publication (CIP) program supplies Australian publishers with cataloguing data for inclusion in published works and provides for the early creation and dissemination of machine readable records.

National Bibliographic Database—NBD

The NBD is created on a cooperative basis with other libraries and is used to produce the range of national union catalogues published by the Library in microfiche form; these include NUC:D (*National Union Catalogue of Library Materials for the Disabled*), NUC:N (*National Union Catalogue of Non-Book Materials*), NUCOM4 (*National Union Catalogue of Monographs)* formerly *ABN Catalogue*, and NUCOS (*National Union Catalogue of Serials*).

Online information services

The Library provides online information services in the life sciences (especially medicine) and Australian social sciences and humanities. They are delivered through two networks: the Australian MEDLINE Network (operated in conjunction with the Department of Community Services and Health) and the OZLINE Network. the OZLINE Network runs the Library's databases APAIS (*Australian Public Affairs Information Service*), AGP (*Australian Government Publications*), and ANB. Other databases include MAIS (*Multicultural Australia Information*), supplied by the Office of Multicultural Affairs, and CINCH, supplied by the Australian Institute of Criminology.

Australian Bibliographic Network—ABN

ABN, the Library's principal resource sharing service, provides access to the National Bibliographic Database (NBD) of 6.2 million records, delivers cataloguing data to Australian libraries and enables libraries to share their cataloguing effort to achieve significant cost savings. ABN also provides online access to nationwide information about the location of library materials, and supports interlibrary loan management. In June 1989 ABN had 909 members of which 309 were contributing data to the system. ABN can be accessed internationally.

Interlibrary lending

The Library operates a film and video lending service to organisations in Australia and participates in national and international interlibrary lending schemes. It makes monographs available on loan and supplies photocopies of serial and some other paper-based material not normally eligible for loan.

International and national coordination

The Library provides national representation on a number of international library and information organisations. These include UNESCO, the International Federation of Library Associations and Institutions (IFLA), the Conference of Directors of National Libraries, and the International MEDLARS Policy Advisory Group. The Library, in cooperation with other institutions contributes actively to the development and coordination of library and information services in Australia, playing an important role in areas such as resource sharing, preservation, standards, equity of access, and services to special groups, including Aboriginal people, people with disabilities, multicultural communities, and remote users.

Australian Council of Libraries and Information Services—ACLIS

ACLIS is a peak council which represents the views of all types of libraries in Australia. It is governed by an elected National Council and is serviced by a secretariat provided by the National Library of Australia. The Director-General is an ex-officio member of the National Council. Its role will be to present to governments at all levels a unified view on the importance and value of library and information services in Australia. The body came into existence on 1 July 1988, and has taken over many tasks formerly carried out by the Australian Advisory Council on Bibliographic Services (AACOBS) and the Australian Libraries and Information Council (ALIC). Both of these bodies were formally disbanded by 30 June 1988, and their assets and ongoing commitments largely passed to ACLIS.

Other Commonwealth Libraries

Patent Office Library

The library of the Australian Patent, Trademarks and Designs Office in Canberra contains approximately 14,000 books and a wide variety of periodicals and other literature relating to science, technology, industrial property (patents, trademarks and designs), law and practice. The collection dates back to 1904, ensuring that its holdings of patent gazettes, journals and specifications are reasonably comprehensive. Patent specifications of inventions are received from the principal countries of the world. Present holdings are over 15 million with an estimated 600,000 patent specifications received annually. Document back-up is available through the sales centre.

Australian and some foreign specifications and related material are also available at sub-offices in Brisbane, Sydney, Melbourne, Adelaide, Perth and Hobart.

Commonwealth Scientific and Industrial Research Organisation—CSIRO

The Information Services Unit (ISU), a component of the Corporate Services Department, was formed in 1988 by the amalgamation of the central library and information service with other information and communication services. Its objectives are to provide enhanced library, information and communication services for CSIRO scientists, and to contribute to improving the scientific and technical information services available in Australia.

The ISU complements and extends information programs in the CSIRO research divisions and is also the coordinating centre for the CSIRO library network of over 40 libraries in divisions located Australia-wide.

The activities of the ISU are reported with all other units in the Annual Report of the Corporate Services Department. This publication supersedes CILES' Report.

The Australian War Memorial Research Centre

The Centre preserves the documentary and pictorial records of Australia's participation in armed conflicts. Printed, audio and other material includes over 80,000 volumes (books and bound periodicals); thousands of unbound periodicals, leaflets, souvenir and microfilm items; a large collection of military maps; newscuttings and newspapers; 500 hours of sound recordings; war posters; postage stamps; and currency. Official records and personal papers occupy 5,000 metres of shelving. Official war photographs covering World War I, World War II, the Korean and Vietnam wars number over 800,000, and there are about 600 kilometres of cinefilm. Facilities exist for reference and research.

Australian Heritage Commission Library

The Australian Heritage Commission operates a specialist library which aims to provide an information service, based primarily on published material, to the staff of the Commission and to those in the community interested in or working on heritage-related programs. Of special interest to educators is a small collection of videotapes.

The Library acquires and controls a collection of material, provides reference, current awareness and loan services, and provides bibliographic control of material through HERA (Heritage Australia Information System), a national, publicly accessible online database.

HERA aims to record all references to Australian heritage publications produced after 1986.

Particular emphasis is placed on reports written or commissioned by government and non-government heritage agencies through-out Australia. Among these are the reports prepared under the National Estate Grants Program (NEGP), the Commonwealth Government's major financial contribution to the protection of the National Estate. More than 600 NEGP reports are held in the Library, covering topics as diverse as geological monuments, wilderness areas, endangered fauna and flora, Aboriginal carved trees, contact sites, historic urban areas and buildings, mining history and abandoned settlements.

In addition to recording current material, attempts are being made to identify collections or parts of collections which will provide valuable retrospective additions to the database.

HERA will include books, journal articles, legislation, maps, resource kits, theses and reports in many forms. On-line search and retrieval services to HERA Database are available through AUSTRALIS—a CSIRO network.

Commonwealth Parliamentary Library

The Library provides comprehensive information and research services to the Commonwealth Parliament through the Legislative Research Service and the Library, Reference and Information Service. The Legislative Research Service comprises groups staffed by subject specialists who prepare analyses and interpretations of specific issues with which the Parliament is or may be concerned. The Library, Reference and Information Service answers questions and provides information from printed and other published sources in all areas relevant to the duties of a Parliamentarian. The Library collection is concentrated on topical material, supported by a wide collection of standard references; it totals some 150,000 volumes, including 9,000 serial titles. The Library publishes the *Commonwealth Parliamentary Handbook*, which is a standard reference work, topical annotated reading lists, general research papers from the Legislative Research Service, digests of bills and, in alternate weeks the *Index to Current Information* and *Select List of Acquisitions*. Extensive use is made of computer and on-line services, particularly in such areas as economic and electoral statistics and in the provision of information by librarians. Access to the Library is restricted to Members of Parliament and their staff, and to Parliamentary staff.

The Parliamentary Library also bears administrative responsibility for the Parliamentary Information Systems Office which is responsible for the design, implementation and maintenance of computer-based systems for the Parliament. The Office is also responsible for internal and, where appropriate, external sound and vision broadcast systems.

Australian Bureau of Statistics Library

The ABS Library in Canberra has a complete set of ABS publications published since Federation and many State and colonial official statistics. It also has a large collection of material on statistical methodology as well as year books, census reports and statistical bulletins from many countries and international agencies, covering periods in some cases from the turn of the century. Facilities in the Library are available to the public for reference and research. A smaller Library exists in each State office.

Departmental libraries

Each government department has a library or information unit to service its departmental needs. Some of these libraries are available for public use.

Other Libraries

State and municipal libraries

Most municipalities and shires have libraries funded by the local council with some State government assistance. A detailed description of libraries funded directly by the State is given in the respective State *Year Book*.

Children's libraries and school libraries

Children's libraries exist in all States, usually as branches or extensions of State or municipal libraries. School libraries exist in many schools funded by State governments and by the efforts of parent and school bodies.

University and college libraries

The Commonwealth Government has, since 1957, supported the development of university and college of advanced education libraries.

CREATIVE ARTS

The arts in Australia receive considerable financial support from the Commonwealth Government. This support is complemented by State, Territory and local governments. Governments provide funds for virtually all aspects of creative artistic life. Major arts facilities have opened in Canberra, Sydney, Melbourne, Brisbane, Perth, Adelaide and Darwin. The number of regional art museums and performing arts centres has increased in recent years. In the past decade the number of major international art exhibitions touring capital cities has increased. Community and folk arts have gained recognition, and the Australian film industry is emerging once again as a major contributor, in economic and artistic terms, to Australian cultural life.

The activity of governments in encouraging and supporting culturally important activities is complemented by non-government sponsors, organisers, entrepreneurs and patrons of the arts. Private and corporate investment in the arts is being encouraged, and joint ventures between government and corporate sponsors for large scale events, tours or exhibitions are not uncommon.

National Activities

The Commonwealth Government formulates policy guidelines for the support of the arts generally and allocates funds annually to the national cultural institutions under its jurisdiction. Commonwealth–State consultation on cultural matters takes place through the Cultural Ministers Council.

Cultural Ministers Council

The Cultural Ministers Council is the ministerial forum on cultural activities in Australia.

The Council, established in 1984, provides a forum for the exchange of views on issues affecting cultural activities in Australia. It consists of the Commonwealth, State and Territory ministers responsible for the arts and cultural heritage. New Zealand and Papua New Guinea ministers with responsibility for the arts are invited to attend meetings as observers.

For the purposes of the Council, cultural activities are defined as: creative arts; performing arts; cultural heritage, including collecting institutions; libraries and information services; and film.

Working Groups have been established by the Council to undertake various studies, including the Statistical Advisory Group, Orchestras' Working Group, and working groups on heritage collections, rationalisation and key priorities.

Joint Committee of Cultural and Education Ministers—JCCEM

The JCCEM was established in 1985–86 by the Cultural Ministers Council and the Australian Education Council to examine ways to improve the status of arts education in Australia.

The function of the Committee is to encourage increased coordination and cooperation between education and cultural authorities throughout Australia. Areas of focus include support for the development of the arts; arts curriculum development; and the planning and operation of arts/education facilities.

Australia Council

The Australia Council is the Commonwealth Government's chief funding body and policy adviser for the arts. Established as a statutory authority in 1975, its responsibilities are detailed in the *Australia Council Act 1975*. Broadly speaking, the Council's brief is to formulate and carry out policies to help raise the standards of the arts in Australia, to enable and encourage more Australians to become involved in the arts and to enable

Australians and people in other countries to become aware of Australia's cultural heritage and achievements. Artists and arts' organisations are assisted financially by the Council through its specialist artform boards.

In May 1987, the Government announced changes to the structure of the Australia Council in response to the Report of the House of Representatives Standing Committee on Expenditure Inquiry into Commonwealth Assistance to the Arts (the *McLeay Report*), to revitalise arts support mechanisms and policies for the next decade. Under the new arrangements, the Council consists of fifteen members made up of the Chair of Council, all chairs of Boards, arts practitioners and representatives of the broad public interest, and Council's General Manager as an ex officio member. The number of artform boards has been reduced from eight to three, which cover literature, visual arts and craft, and the performing arts. A Design Committee of Council replaced the former Design Board, and the former Aboriginal Arts Board has been replaced by an Aboriginal Arts Committee pending a review of Aboriginal arts funding arrangements in 1990.

Community cultural development

A Community Cultural Development Unit was formed in July 1987 to elevate the Council's community arts focus and provide for integration with the activities of the artform boards. The functions and funding role of the former Community Arts Board were transferred to the new unit which has a broader brief to foster community cultural development. The Council now has ultimate responsibility for community arts development, and assists community involvement by encouraging the closer integration of arts practice into everyday life and growth of an independent culture that reflects the diverse composition of Australian society.

The Community Cultural Development Unit also administers programs in support of Multicultural Arts, Youth Arts, Touring and Access, and Art in Working Life.

ALLOCATION OF FUNDS FOR PROGRAMS, BOARDS AND ADMINISTRATION OF THE AUSTRALIA COUNCIL, 1988–89
($'000)

Support for Artform Development	
Aboriginal Arts	3,119
Community Cultural Development	4,765
Design	300
Literature	3,618
Performing Arts *(a)*	30,399
Visual Arts/Craft	5,616
Total	*47,817*
Support for General Arts Activities	
Public Affairs	297
General Council Programs	1,128
Policy and Research	280
Advocacy Program	180
Arts Information	102
Total Programs	*1,987*
Total Support for the Arts	49,804
Administration	8,382
Total appropriation	**58,186**

(a) Includes $5,731,344 for The Australian Opera; $2,470,125 for the Australian Ballet and $2,395,253 each for the Sydney Philharmonic Orchestra and State Orchestra of Victoria.

Aboriginal arts

The Council's Aboriginal Arts programs support activities involving the preservation and continuation of traditional cultural practices and their associated artforms, as well as the generation of new artistic expression among Aboriginal people in urban and country areas.

Literature

The Literature Board encourages all forms of Australian creative writing through direct grants to writers, and the subsidising and promotion of the resultant works. More than half of the Board's annual expenditure goes in grants to writers to meet travel, research and other expenses.

Performing arts

The Performing Arts Board facilitates consideration of issues common to all the performing arts such as training, performance venues and administration. The board also continues to encourage and support the development of music in Australia and the promotion of Australian music and musicians overseas, and the development of performance, content and production of dance, drama, puppetry, mime and young people's theatre, which stem from and relate to the Australian experience.

Australia has eight fully professional orchestras managed by the Australian Broadcasting Corporation, namely a symphony orchestra in each State capital city and two orchestras, the Elizabethan Sydney Orchestra and the State Orchestra of Victoria, predominantly engaged in work with the Australian Opera (Sydney) and the Australian Ballet (Melbourne). The Board provides continuing support for some 80 drama, dance, puppetry, mime and youth companies, and provides opportunities for professional theatre people to develop their skills, encourages growth in theatre attendance and promotes community involvement in live theatre.

Visual arts/craft

The Visual Arts/Craft Board has been designed to link related, but distinct artforms. The Board provides assistance to individuals and organisations working across a wide spectrum of the visual arts in Australia, from painting and sculpture to musicology. Programs include grants to individuals, the commissioning and placing of works of art in public places, research and writing on the visual arts, support for artists in residence and the acquisition, exhibition and conservation of works of art.

In the area of crafts, the Board encourages continuing improvement in the quality of crafts practised in Australia, and provides greater opportunities for craftspeople to further their professional development. It fosters wider community access to the crafts and promotes an awareness of Australian crafts overseas and of work of other countries in Australia.

Other Commonwealth Schemes in Support of the Arts

Artbank

Artbank is a unit of the Department of the Arts, Sport, the Environment, Tourism and Territories, set up to encourage contemporary young Australian artists by acquiring their work, and to stimulate a wider appreciation of Australian art by making it available for display in public locations throughout Australia and in official posts overseas. Since its inception in 1980, the Artbank collection has grown to more than 6,000 works, including paintings, artists' prints, sculpture, photography, Aboriginal art, and craft. Approximately 1,800 artists are represented in the collection.

Taxation incentives for the arts

The Taxation Incentives for the Arts Scheme came into operation on 1 January 1978 under section 78 of the *Income Tax Assessment Act 1936*. The scheme encourages the donation of gifts in kind to public art galleries, museums and libraries by allowing donors a taxation deduction.

Historic Memorials Committee

The Historic Memorials Committee was established in 1911 to secure portraits of distinguished Australians who took an active part in Federation. Later the Committee decided to obtain portraits or other representations of all Governors-General, Prime Ministers, Presidents of the Senate, Speakers of the House of Representatives, Chief Justices of the High Court of Australia and other distinguished Australians. In addition, the Committee has commissioned paintings or other representations to record special events connected with the Commonwealth Parliament and, more recently, the High Court of Australia. The collection is located in Parliament House.

Commonwealth indemnification of exhibitions

In 1979 the Commonwealth introduced a scheme under which national and international touring exhibitions could be approved for Commonwealth indemnity against loss or damage of the works involved. The scheme ensures that the Australian public has the opportunity to see major international and Australian touring art exhibitions which would be uneconomic without indemnity due to the prohibitive cost of insuring such major works. The scheme also covers some Australian exhibitions travelling overseas, for which indemnity is not available from the host country and which could not otherwise proceed.

Fifty-seven exhibitions were indemnified by the Commonwealth between 1979 and 1989. During 1988 a special Bicentennial program of 18 exhibitions received Commonwealth indemnification. This program, including a number of historical Australian exhibitions specially curated for the Bicentenary and a range of exhibitions from overseas, toured State museums, art galleries and regional centres.

International Cultural Corporation of Australia Limited—ICCA

ICCA was established by the Commonwealth Government in 1980 as a non-profit public company, to arrange and manage cultural exhibitions and events.

Its principal activities are three-fold. Firstly, working in close collaboration with Australian and overseas galleries and museums, it manages significant exhibitions of artistic, cultural and historical interest. Secondly, it works with the Australian Government to send Australian exhibitions overseas. Thirdly, it offers consultancy and advice to Commonwealth, State and overseas governments, and to galleries and museums.

To date, the Corporation has managed 34 exhibitions and events, among them, 26 major touring exhibitions. Total audiences have exceeded 5 million.

The Australian Government provided seeding funds totalling $1 million between 1980 and 1983, but since then the Corporation has been self-supporting. ICCA has attracted $13.5 million of sponsorship support from 72 companies in the corporate sector and 16 public sector sources.

ICCA works closely with the Department of the Arts, Sport, the Environment, Tourism and Territories which is the manager of the Australian Government's indemnity scheme. ICCA also works with the Department of Foreign Affairs and Trade and other government and cultural agencies in Australia and overseas. Its continuing contractual partners in exhibition activities are the Australian galleries and museums.

Exhibitions managed by ICCA have included *The Entombed Warriers* from China, *Philip Guston* from the United States, *Pop Art* from the Museum of Modern Art, New York, *Picasso* from Europe, *Gold of the Pharoahs* from Egypt, *Ancient Macedonia* from Greece, and *Golden Summers* and *The Great Australian Art Exhibition* from Australia.

Public Lending Right Scheme

The Public Lending Right Scheme, established by the Commonwealth Government in 1974, makes compensatory payments to Australian authors and their Australian publishers for the use of their books in public lending libraries. Eligible books must be created by Australian citizens and residents and meet certain eligibility criteria. The Public Lending Right Act 1985, placing the Scheme on a statutory basis, began operation on 1 July 1987.

In 1988–89 the government provided $2.63 million for the administration of, and payments for the Public Lending Right. The scheme's 1988–89 payments totalled $2.302 million. Payments to authors and publishers are based on annual sample surveys of book stocks of public lending libraries throughout Australia.

Other Arts Organisations

Arts Council of Australia

The Arts Council of Australia is a national federation of community arts based Arts Councils. Each State Division is funded through the Australia Council and their respective State Government.

The Arts Council of Australia is administered through the State office in which the Federal President resides. (For 1988–90 the Federal Office is with the Victorian Arts Council.)

The Council acts as a coordinating body for the activities of the States. These programs cover a wide range of community arts activities initiated by local Arts Councils, an extensive program of professional performances in schools and tours by major theatre companies to towns and cities outside the capitals.

There are now about 300 Arts Councils around Australia. Each local Arts Council initiates its own program of activities which are supported by the State Offices.

Australian Elizabethan Theatre Trust

The Australian Elizabethan Theatre Trust, established in 1954, was originally formed to present drama, opera, ballet and puppetry throughout Australia. Full autonomy has been accorded to most of the performing companies established by the Trust. The Trust's major function is to provide services to the arts community around Australia. In particular, the Trust has active programs of audience development (particularly tourists), business sponsorship advocacy and nurturing of developing talent. The Trust provides tax deductions for over 700 eligible arts organisations as well as providing an industry superannuation service, an industry insurance service and an industry advertising and marketing service.

The Trust receives annual grants from the Australia Council and State and local governments. Its revenue is supplemented by subscriptions, donations and its own activities.

The Australian Ballet

The Australian Ballet, established in 1961 as the national classical ballet company of Australia, first performed in Sydney on 2 November 1962 and was registered as an incorporated company in 1970.

Fifty-eight dancers perform on stage backed up by 42 artistic, music, production and theatre staff and 28 marketing, publicity, administrative and finance staff—a total of 128.

The Australian Ballet gives about 185 performances every year in the Australian cities of Sydney, Melbourne, Brisbane, Adelaide and Perth and has toured overseas regularly:

1965	Royal Opera House, Covent Garden, London and Baalbeck, Lebanon
1967	North and South America
1968	South East Asia
1970–71	United States of America
1971	Singapore and Philippines
1973	USSR, Eastern Europe and London
1976	New York, Washington, London and Philippines
1978	Jakarta
1979	Greece, Israel and Turkey
1980	The People's Republic of China
1981	Mexico
1987	Japan and China
1988	USSR, London and Athens
1989	Taiwan, Thailand and Singapore

The Commonwealth and State governments of Australia provide yearly grants to the Australian Ballet, contributing 22 per cent of its total income, but its main source of revenue is ticket sales which bring in more than $6 million. Many businesses and commercial organisations provide sponsorships which total in excess of $1 million. Operating costs exceed $10 million per annum. Orchestras for Australian performances are funded by government grants and conducted by the Australian Ballet's music director and guest conductors.

Festivals

Festivals devoted solely or partly to the arts now total about 400 a year. The two biggest are Adelaide's biennial and Perth's annual festivals, both of which last several weeks and present overseas artists as well as leading Australian companies.

Many country centres now have arts festivals which attract performers and artists from a wide area. Seminars, arts workshops and community participation programs are increasingly popular.

The Australian Opera

The Australian Opera is the largest performing arts organisation in Australia, employing more than 200 permanent staff including 31 principal artists and a chorus of 48. In addition it employs more than 500 casuals each year, including a number of celebrated international singers. The projected budget for the Opera in 1989, excluding the cost of orchestras, was more than $23 million, derived mainly from the following sources—63 per cent box office and other earned income, 26 per cent Government subsidy and 11 per cent private contributions. The Opera, with headquarters in Sydney, tours annually to Melbourne and frequently visits other centres. In 1990 it will give 237 performances of 18 operas on Australian stages. Opera performances in the parks and television activities are used by the company to provide all Australians with access to opera.

Musica Viva

Musica Viva Australia is Australia's national chamber music entrepreneur. A non-profit company founded in 1946, it presents concerts mainly of chamber music but also of other types of fine music by Australian and overseas artists.

Musica Viva receives subsidies from the Performing Arts Board of the Australia Council and several State governments, with the balance of its income coming from ticket sales, sponsorship and donations.

It also manages tours by Australian artists overseas, often in association with the Department of Foreign Affairs and Trade, operates an extensive program in education, and commissions new music from Australian composers. In 1989, Musica Viva presented over 2,000 concerts throughout Australia and overseas.

Film and Television

Encouragement of the Australian film and television industry is a firm policy objective of the Commonwealth Government. The following funds were allocated to film-related organisations in 1989–90:

- Australian Film Finance Corporation—$54.8 million;
- Australian Film Commission appropriation—$16.1 million. In addition, $3.2 million expected from self-generated funds, giving a level of activity of $19.0 million;
- Australian Film, Television and Radio School—$8.9 million;
- Australian Children's Television Foundation—$0.6 million.

Australian Film Commission

The Australian Film Commission is a statutory authority established in 1975. Its stated objectives are:

- to develop a stable and diverse Australian film and television production industry of quality;
- to encourage, by financial assistance or otherwise, the production, distribution and broadcasting of Australian programs;
- to promote the commercial potential and cultural outreach and benefits of Australian programs in Australia and overseas.

During 1988–89 national film production comprised 22 features, 8 telemovies and 16 mini-series for approximately $107.5 million. (This does not include all non-10BA nor drama serials production.)

In 1988 cinema admissions amounted to 33.4 million attendances. Australian films claimed 17.3 per cent of the gross box office receipts.

Film Australia Pty Limited

Film Australia, the Government's film and video production body, formerly a division of the Australian Film Commission, has been re-established as a wholly Commonwealth-owned company to operate as far as practicable along commercial lines. The national film production house, now known as Film Australia Pty Limited, traces its roots back to 1911 when the Commonwealth Government appointed its first cinematographer. It was incorporated in the Australian Capital Territory on 24 May 1988 and commenced operations on 1 July 1988.

Film Australia's role in the community and film industry is to make films and videos which reflect aspects of the Australian way of life and Australia's relationship with the world. It also offers new filmmakers the opportunity for production experience in a professional environment, and allows established film makers the chance for experimentation and the practical development of ideas and techniques.

Film Australia produces approximately 100 film and video titles a year. It maintains the largest Australiana stock-shot library in the world, with around two million metres of film, including archival material.

Australian Film Finance Corporation Pty Ltd

On 25 May 1988 the Government announced its decision to establish the Australian Film Finance Corporation. Officially incorporated as a company on 12 July 1988, and with a budget allocation covering the next four years, the Corporation is to invest in feature films, documentaries and television dramas, including mini-series and telemovies. Special attention will be given to children's television.

Taxation Incentives for Films Scheme

The scheme which is embodied in Division 10BA of the *Income Tax Assessment Act 1936* was established in October 1980 to encourage private investment in Australian films. The scheme allows taxation concessions for private investors in qualifying Australian films which have been issued with a certificate to that effect by the Commonwealth Minister for the Arts and Territories.

Qualifying Australian films are feature films and films of a like nature for television (telemovies); documentaries; and mini-series of television drama. Further they must be produced principally for public exhibition in cinemas or on television, be substantially made in Australia and have a significant Australian content.

Australian Children's Television Foundation

The Australian Children's Television Foundation was incorporated in Victoria in March 1982. Its aim is to improve the quality and quantity of children's programs on Australian television. It has actively pursued this objective by investing in script development and program production and by undertaking related educational and informational activities. The Foundation receives assistance from Federal, State and Territory governments (with the exception of Queensland). In 1989–90, $0.57 million was provided by the Commonwealth with a matching contribution sought from the other participating governments.

Film censorship

The Commonwealth's censorship powers derive from section 51(1) of the Constitution which enables the Commonwealth to regulate trade and commerce under the Customs Act. Section 50(1) of the latter Act provides that the Governor-General may, by regulation, prohibit the importation of goods into Australia. The Customs (Cinematograph Films) Regulations, which establish the Film Censorship Board and define its legislative role and functions, flow from that section.

The Board is a full-time statutory body located in Sydney as part of the Office of Film and Literature Classification, created in April 1988. A regional Censorship Office is located in Melbourne.

Under the Customs (Cinematograph Films) Regulations, the Board examines imported films and videotapes to determine whether to register or to refuse to register them for public exhibition. It also examines film advertising. The Regulations direct the Board not to pass films or advertising matter which in its opinion are:

- blasphemous, indecent or obscene;
- likely to be injurious to morality, or to encourage or incite to crime;
- undesirable in the public interest.

The Board's State functions in relation to cinema films, including classification, are performed by virtue of formal agreements with the various States. Decisions on matters arising under the Regulations and on classification under State/Territory legislation may be appealed to the Films Board of Review. The Board also classifies sale–hire videotapes pursuant to State/Territory legislation. These decisions may likewise be appealed to the Films Board of Review.

Feature films

In 1988, 543 cinema feature films were processed. Nine feature films were refused registration. There were 9 appeals, of which 3 were dismissed. Of the 543 features, 31 were classified For General Exhibition ('G'), 141 Parental Guidance ('PG'), 276 For Mature Audiences ('M') and 44 For Restricted Exhibition ('R'). Permission to import for use at approved events including film festivals was granted to 120 films, and 69 were passed subject to special conditions.

The principal countries of origin were the United States of America (228 films), Hong Kong (65 films), the United Kingdom (55 films), Australia (54 films) and Italy (25 films).

While the 'M', 'PG' and 'G' classifications are advisory, persons who have attained the age of two years and who have not attained the age of 18 years are excluded by law from seeing 'R' rated films.

Videotapes

The Board examined 2,262 video features for sale or hire in 1988. There were 5 appeals, 2 of which were upheld and 3 dismissed. 713 feature titles were classified 'G', 362 'PG', 656 'M', 247 'R' and 247 'X'. Thirty-seven were refused classification. The 'X' classification, which applies to videotapes containing non-violent explicit sexual material, is accepted only in the ACT and Northern Territory.

Professional Training in the Arts

Professional training in the arts in Australia covers a broad range of resources. Training is available through formal programs in TAFE, advanced education and university level courses. There are also a number of on-the-job training programs available in the arts and many organisations offer in-house training programs for their staff. The last decade has seen the development of multi-disciplinary tertiary arts training institutions in some States.

Arts Training Australia

This national organisation was established in 1986 to address vocational training needs in the arts industry. It is not a training organisation in itself, but aims to ensure that current training programs are meeting present and future needs of those involved in the arts.

Arts Training Australia represents a wide range of national employer organisations, unions and professional associations active in the industry. It undertakes research projects which examine the specific training needs of the differing industry sectors, ranging from architecture and design, performing and visual arts to writing and publishing, film, television, radio and heritage. It also assesses the relevance of non-accredited privately-run courses to the needs of the industry and coordinates national curriculum development programs.

Through its branch network the organisation liaises with State and Federal governments, educational institutions and others in policy making for arts training. It provides advice to government on the industry's training requirements, as well as participating in wide-ranging debates on industry training matters.

Arts Training Australia is one of 18 national industry training councils funded by the Commonwealth government through the Department of Employment, Education and Training. Additional funds are provided by industry as contributions to the administrative costs of the organisation as well as to specific research projects.

Australian Film, Television and Radio School

The School was established in 1973 as an Australian Government statutory authority. It is responsible for providing advanced education and training for industry professionals, as well as the development, through its full-time and short courses, of new and emerging talent.

The School undertakes, coordinates and disseminates research in connection with the production of programs. Training needs are assessed and employment trends in the industry are evaluated. The School maintains an extensive library of print and non-print material related to film, television and radio. It also has an extensive publishing program and supplies educational resource material.

National Institute of Dramatic Art—NIDA

The Institute is Australia's national training school for young people who wish to enter the profession of theatre, film and television as actors, directors, designers or stage managers. The Institute's courses are designed to meet the needs of the arts entertainment industry by assisting students to develop the craft skills, cultural background and personal discipline required for successful careers in their chosen field.

The Institute's students number approximately 130 and it has a staff of 30 full and part-time teachers. Each year, some 50 new students are enrolled from over 1,500 applicants from throughout Australia.

RECREATION, FITNESS AND SPORT

The Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories has a general responsibility in the national sphere for recreation, fitness and advice on sport policy.

All State governments have also established agencies with special responsibilities for recreation and sport. Increasing numbers of local government authorities are employing recreation workers who are responsible for planning the use of recreation facilities, and for devising recreation programs.

National Activities

The Sport and Recreation Ministers Council (SRMC) provides the major mechanism for liaison between the Commonwealth, State and Territory governments on matters concerned with sport and recreation in Australia. The Council is a forum for consultation and cooperation between the respective governments, and its membership comprises the ministers with prime responsibility for sport and recreation. Both New Zealand and Papua New Guinea have observer status on the Council.

The SRMC is assisted by the Standing Committee on Recreation and Sport (SCORS). The Department provides secretariat support to the Council, the Standing Committee and its subcommittees.

Standing Committee on Recreation and Sport—SCORS

The Standing Committee comprises representatives from the Commonwealth, State and Territory departments or agencies responsible for sport and recreation. It has established two permanent subcommittees; the Subcommittee on Fitness and the Consultancy Fund Subcommittee.

The objectives of the Subcommittee on Fitness are to:

- provide a mechanism by which the Commonwealth, State and Territory departments can support and assist each other in developing fitness programs;
- provide advice to SCORS on:
  - matters relating to fitness;
  - areas of cooperation in planning, implementing and evaluating fitness programs, facilities and services;
- undertake specific tasks in the area of fitness as directed by SCORS;
- initiate, in conjunction with other agencies where appropriate, approved projects relating to fitness.

The Consultancy Fund Subcommittee is generally responsible for advising SCORS on the operation and management of the SRMC Consultancy Fund. The Consultancy Fund has been established jointly by the Commonwealth, State and Territory governments to enable the council to undertake, on a cooperative basis, projects of common interest.

The Consultancy Fund Subcommittee is responsible for:

- advising SCORS on an annual program to be funded from the SRMC Consultancy Fund;
- implementing projects in accordance with the approved funding program;
- monitoring the progress of projects and presenting reports and recommendations;
- advising SCORS on the dissemination and publication of the results of such projects.

Projects recently funded from the Consultancy fund include: the preparation of a management manual for recreation centres; a study into sport and recreation for people with disabilities; and the preparation of a publication on sports administration.

Community Recreation and Sporting Facilities Program

In August 1988 the Commonwealth Government announced the introduction of its Community Recreation and Sporting Facilities Program which provides financial assistance to supplement that provided by State, Territory and local government and community sources, to address high priority community recreation and sporting facility needs.

Projects given priority include those that address the needs of residents in inner urban or new suburban areas; youth; rural communities; communities with high unemployment; and communities with large migrant populations. The three-year program will distribute $13 million for community level facilities in Australia. In 1988–89 a total of 734 applications seeking funds in excess of $108 million were received. In June 1989 173 grants totalling $6.05 million were offered by the Commonwealth.

Recreation and fitness program

In 1988–89, a total of $2.172 million was allocated to the Government's recreation, fitness and water safety programs to enhance the opportunities for all Australians to participate in healthy, safe and satisfying leisure activities. Of this amount, $609,500 was provided for a range of projects which aim to increase participation in safe recreation and fitness activities. In 1989–90 these amounts were increased to $2.472 million and $739,500 respectively.

Recreation projects

A major aim of the Commonwealth Government's Recreation and Fitness Program is to disseminate recreation and fitness information as widely as possible. Each year the Department of the Arts, Sport, the Environment, Tourism and Territories produces a revised edition of the *Australian Recreation Directory* and three editions of the newsletter *Participation* for national distribution.

Other recreation projects undertaken in 1988–89 included: the revision and reprinting of the booklet *What's age got to do with it?*; the inclusion of selected information from the booklet in 3 community languages pamphlets; the preparation of a booklet *You can beat the country blues* which suggests ideas for women living in rural areas who often face barriers to their participation in recreational activities; and the production of 2 videos, *What's age got to do with it?* and *Challenging age*, both designed to facilitate and encourage participation by older Australians in safe, satisfying recreational activities. A survey of recreation education at the tertiary level was also completed during the year and looks at the relationship between recreation courses offered by tertiary institutions and the requirements of employees.

A national strategy on fitness

In November 1988 the Department hosted the National Physical Activity and Lifestyle Conference aimed at providing a new focus for fitness and health promotion in Australia and to develop a national action plan to improve the fitness, health and well-being of the community.

Representatives involved in both the design and implementation of policies and programs from State and Federal governments, academic, commercial and professional fitness interests, special interest and community groups, were invited to participate to ensure that any initiatives arising from the conference could be introduced with support from both decision-makers and service deliverers.

As a result of the conference, the Department identified a number of areas for support, including research, but also seeding and establishment funding for the Australian Alliance for Physical Activity and Lifestyle. The Alliance has developed from a taskforce established at the conference, and is representative of the spectrum of the fitness community. Its aim is to raise the profile of the fitness and healthy lifestyle industry with the government, industry and the community, and to provide an authoritative voice on fitness matters.

Promotion of physical activity

In 1988–89 the Department continued to distribute a number of publications aimed at increasing opportunities for Australians to participate safely in a range of physical activities. These included a leaflet on back care called *Straight Facts about Backs* and a leaflet for older adults called *Safe Exercises for Older Adults*; an any-year fitness diary aimed at encouraging people to integrate exercise into their everyday life; the booklet and video *Fitness Testing—a Guide* designed to assist professionals in the accurate assessment of fitness levels and the design of appropriate exercise programs; and the workplace fitness package *Health and Fitness at Work—it Works*, designed to provide a step by step guide to establishing a workplace fitness and health program.

Additional publications in 1988–89 included translations of *Straight Facts about Backs* and *Safe Exercises for Older Adults* into eight community languages; the publication of *Doing it for ourselves—a rural women's guide to fitness and wellbeing*, a resource kit for women in remote and isolated communities designed to provide information and ideas to help them increase their fitness and general wellbeing.

Research

The Department completed a major consultancy project to examine how the media might be better used to promote physical activity, including specific approaches that could be used for different target groups. A manual to assist community and volunteer groups at State and local levels to maximise their effective use of the media is to be published as one outcome of the consultancy. Development of the national media strategy is continuing.

The Department commenced preliminary work on a major pilot survey of the physical fitness of adult Australians, which will provide baseline data on fitness levels and the effect of demographic and lifestyle factors on personal wellbeing. The results will provide policy makers and program delivery agencies with the first objective information of this kind.

The Department also provided support for two other research projects. The Australian Fitness Accreditation Council is undertaking an objective assessment of the quality, safety and effectiveness of commercially available exercise videos, with a view to publishing the report widely (and updating it regularly). The University of Sydney is undertaking a rigorous evaluation of the economic benefits of an employee health and fitness program, in the first project of its type in Australia.

Assistance for water safety organisations

In 1988–89 the Department provided financial assistance totalling $1.335 million to the Surf Life Saving Association of Australia, the Royal Life Saving Society—Australia, and Austswim. These grants aid and encourage the development of safe water-based activity programs for many Australians.

Recreation and Aboriginal people

As part of the follow-up to a workshop held in June 1986, the Department held a seminar in February 1989 to determine the nature and extent of courses available for the training of recreation workers for employment within aboriginal communities. The seminar concentrated on issues relevant to Aboriginal youth, particularly in urban and rural/remote situations, as well as recreation issues affecting young Aboriginal women. Material is now being collected from tertiary institutions in order to produce a register of courses available for the training of recreation workers in Aboriginal communities.

Recreation for People with Disabilities

The National Committee on Recreation for People with Disabilities provides advice to the Minister for the Arts, Sport, the Environment, Tourism and Territories on matters relating to recreation for people with disabilities, and makes recommendations on the allocation of funds under the Program of Assistance for Recreation for People with Disabilities. In

1988–89, $210,000 was allocated to organisations to conduct specific projects which provided opportunities for people with disabilities to participate in recreational activities of their choice. Organisations receiving grants for specific projects included State organisations for people with disabilities and local government authorities.

Australian Sports Commission—ASC

Following proclamation of the *Australian Sports Commission Act 1989* on 1 May 1989, the ASC and the Australian Institute of Sport (AIS) have now merged. The new ASC has the sole authority to plan and coordinate Federal Government sports funding. The Act, however, makes provision for the Commission to conduct its elite athlete programs under the guise of the AIS.

The ASC is a statutory authority providing leadership and long-term direction for Australian sports development. In 1989–90, the Commonwealth Government provided $42.93 million for the Sports Commission's programs and administrative expenses to be allocated as follows:

ALLOCATION OF FUNDS FOR AUSTRALIAN SPORTS COMMISSION PROGRAMS, 1988–89
($'000)

Elite athletes	17,790
Sports science, sports medicine and applied research	2,850
Coaching	3,650
Community programs (AUSSIE SPORTS, youth sports)	3,110
Women in sport	270
Sport for the disabled	990
National sporting organisations	5,570
National sports information centre	590
Drugs in sport	800
Facilities	3,910
Other expenditure	3,400
Total	**42,930**

Elite sports programs

The residential sports program involves 18 sports including basketball, canoeing, cricket, cycling, diving, gymnastics, hockey, netball, rowing, rugby union, soccer, squash, swimming, tennis, track and field, volleyball, water-polo and weightlifting. The program headquarters are in Canberra. Units have been established in Perth (hockey), Brisbane (squash, diving and rugby union), Adelaide (cycling and cricket), Maroochydore (canoeing), and Melbourne (weightlifting). Athletes at the AIS are encouraged to undertake full-time employment or pursue secondary or tertiary education.

In June 1989 there were 323 scholarship holders and 58 coaches under the residential sports program. The Commission employs approximately 250 people, including coaches.

In addition to the residential sports program, the AIS also administers the National Sports Program which offers athletes the use of AIS facilities, resources and expertise. These are utilised for national selection trials, team training, talent development programs, coaches' seminars and workshops for sports officials. Over 2,000 athletes from more than 50 sporting organisations take part in the program each year.

The Sports Talent Encouragement Plan (STEP) provides direct financial assistance to world-ranked Australian individuals and teams and to athletes demonstrating a capacity to achieve world rankings. The assistance contributes towards training and competition expenses of athletes and coaches.

This year funding has been provided for the establishment of an Athlete Education and Employment Advisory Service which will assist elite athletes to gain employment and pursue educational opportunities. The service will be operated by the ASC.

Assistance to national sporting associations

The ASC provides financial assistance to national sporting associations. This includes employing national executive directors and coaching directors, contributing to international competitions, administrative support and development projects.

Applied Sports Research Program

The Commission provides funds under the Applied Sports Research Program which enables national organisations to utilise tertiary institutions to carry out research related to their sport.

Sport for all

The Commission has established the AUSSIE SPORTS and Youth Sports programs to improve the quality and variety of sports available to school-age children and young adults.

A Women's Sport Promotion Unit was established in 1987 to encourage women's participation and achievement in sport.

A Sport for the Disabled Program is also administered by the Commission with the objective of encouraging people with disabilities to participate in sport and to ensure they have the same opportunities as able-bodied people.

Drugs in sport

In response to recommendations contained in the report of the Senate Inquiry into Drugs in Sport, the Australian Sports Drug Agency was established in September 1989 with funding provided through the ASC. The Agency is responsible for educating the sporting and general community on the dangers of performance enhancing drugs and conducting independent sampling and testing of sportspeople at all levels. The Agency will carry out 1,000 tests this year rising to 2,000 tests next year.

Sports Information Centre

The ASC funds a National Sports Information Centre which maintains a comprehensive collection of sports literature and data for public usage.

Coaching support

Salary support is being provided for national coaches, their assistants and satellite program coaches as well as national directors of coaching to ensure top coaches are not lost to sport through the lack of a well-developed career structure. In addition, 15 coaching scholarships will be awarded this year and 10 overseas coaches are to be brought to Australia annually to share their expertise and methodology with local coaches. Master coach awards are being developed to further upgrade coaching at the elite level and 10 master coaches will be trained each year under the new award.

Australian Coaching Council

The Australian Coaching Council is responsible for the development of sports coaches in all sports throughout Australia. The Council's activities include the education and accreditation of coaches through the National Coaching Accreditation Scheme (NCAS). At October 1989 over 65,000 coaches nationally had received accreditation under the NCAS.

SOCIO–CULTURAL ACTIVITIES

Aside from organised or institutional forms of culture, there is a dimension of social practice which is cultural: most simply described as those activities or forms of activity which people undertake in their own time, unconstrained by immediate material need, social obligation or gain. Typically, these are activities which contribute to personal or social identity, which give meaning and focus to values that people hold, and which do not depend on outside subsidy or encouragement.

Language and religious practice, multicultural events, attitudes to and use of Aboriginal lands, and participation in adult education are all manifestations of socio cultural activity embedded in community life that have begun to attract interest from policy makers. They are indicators of attitudes to community identity in the wake of rapid changes to social composition, as well as simply mechanisms for cultural maintenance. They both anchor institutional forms of culture (which rely on commercial or governmental support) within the society, and provide a bridge to mutual understanding across culturally diverse groups.

Aboriginal and Islander Community

Impact of European settlement

The impact of British settlers from the end of the 18th century was disastrous for traditional Aboriginal and Torres Strait Islander society. Although the official policy of the first settlers was to establish peaceful relationships with the Aboriginal inhabitants of the colony, the Aboriginals gradually fell victim to violent confrontations with the settlers.

Available evidence suggests that, before white settlement, Aboriginals led a healthy life. However, contact with other races led to the introduction and rapid transmission of infectious diseases against which the people had little or no immunity. These included measles, smallpox, tuberculosis, influenza, sexually transmitted diseases, leprosy, and parasitic diseases.

The loss of control over the land caused by the spread of European settlement had far-reaching consequences for Aboriginal health, in addition to the more acknowledged cultural, spiritual, social and economic implications of this loss. Many Aboriginal groups were unable to continue their traditional hunting and gathering life, leading to malnutrition and starvation. In many cases Aboriginal people were simply removed from their land and sources of food.

Many Aboriginal and Torres Strait Islander groups and their languages died out, and the traditional ecological balance of Aboriginal life was destroyed.

By the end of the 19th century, special reserves, some run by church mission organisations, were set up in an attempt to protect Aboriginal people. The aboriginal population continued to decline during the 1920s and 1930s and governments were urged to take more positive action.

The government adopted a policy of assimilation based on the assumption that the European way of life was more desirable. There was increased government spending on health services, housing, education and training, and by the 1950s the population decline was reversed.

The 1960s marked a fundamental change of direction in Aboriginal affairs in Australia. This included rejection of the States' and Northern Territory's Native Welfare regimes, the development of the modern Aboriginal political movement and the establishment of concurrent Commonwealth responsibility with the States. This eventually led to the establishment of the Council of Aboriginal Affairs and the Office of Aboriginal Affairs.

The 1970s saw a realisation of some of the promise of the 1960s—Federal funding, including the establishment of the Commonwealth Department of Aboriginal Affairs, the Aboriginal Land Rights (Northern Territory) Act, important High Court decisions, the land rights movement and the growth of new national Aboriginal and Torres Strait Islander social, political and cultural organisations.

In the 1980s government policy moved towards self-determination for Aboriginal and Torres Strait Islander people. In practice this has meant the active participation of Aboriginal and Torres Strait Islander people in the identification of needs, development of programs and delivery of services to their people.

People

At the 1986 Census, there were 227,645 Aboriginals and Torres Strait Islanders in Australia, or 1.5 per cent of the total population. Less than 25 per cent of them lived in cities of more than 100,000 people. One-third lived in rural areas, over twice the rural concentration of the population taken as a whole.

ABORIGINAL AND TORRES STRAIT ISLANDER POPULATION: URBAN/RURAL DISTRIBUTION, JUNE 1986

Section of State	*Aboriginal and Torres Strait Islander Population*		*Total population*	
	No.	Per cent	No.	Per cent
Major urban (cities with more than 100,000 people)	55,537	24.4	9,817,933	62.9
Other urban (towns and cities with 1,000 to 99,999 people)	95,879	42.1	3,499,012	22.4
Rural	76,229	33.5	2,285,211	14.6
Total	**227,645**	**100.0**	**15,602,156**	**100.0**

Government policies

The basis of Government policy is to maintain and support the cultural identity of the Aboriginal people and to enhance their dignity and general well-being. The long term objective is to achieve a situation of justice and equality where Aboriginal and Torres Strait Islander people have sufficient economic and social independence to enjoy their rights as Australian citizens.

Consultation

In December 1987 the Government announced a major restructuring of its Federal Aboriginal organisations.

Following extensive consultation with Aboriginal people the Government established the Aboriginal and Torres Strait Islander Commission (ATSIC) to take over the role and functions of the Department of Aboriginal Affairs and the Aboriginal Development Commission. Aboriginal Hostels Limited and the Australian Institute of Aboriginal Studies will maintain their independence.

The new Commission will, for the first time, formally combine the consultative functions with the administrative functions undertaken by the Aboriginal Development Commission and the Department of Aboriginal Affairs.

Through rationalisation of resources, including field offices, the proposed Commission will result in a more streamlined, efficient and responsive administration of Aboriginal affairs than at any previous time.

Aboriginal Land

The view that secure land ownership is essential to providing Aboriginals with freedom of choice in life style and a means for preserving their traditions, known as 'land rights', has been supported by all major parties at the Federal level of Australian politics.

Aboriginal Land Rights (Northern Territory) Act

The *Aboriginal Land Rights (Northern Territory) Act 1976* came into operation on Australia Day 1977. This legislation gives recognition to Aboriginal land rights in the Northern Territory and is based on the recommendations of the second report of the Aboriginal Land Rights Commission.

Under the Act, Aboriginal people have been granted title to former Aboriginal reserves and a mechanism has been established for the hearing of claims to unalienated Crown Land. Claims are heard by an Aboriginal Land Commissioner who determines whether there are traditional Aboriginal owners to land concerned and makes recommendations to the Government on the grant of their land. Land is granted under inalienable freehold title which ensures security of tenure for future generations of traditional Aboriginal owners as the land cannot be sold or mortgaged. Title is held by Land Trusts composed of traditional Aboriginal owners and/or Aboriginal residents of the area.

A total of 453,099 square kilometres of land (about 33 per cent of the Northern Territory) has been granted to Aboriginal people in the Northern Territory at 30 September 1989 under the provisions of the Act. Of this area 257,992 square kilometres of former Aboriginal reserves and certain other lands were granted under Schedule 1 of the Act while a further 195,107 square kilometres were granted as a result of 20 successful land claims.

The Act also provides for the establishment of Aboriginal Land Councils to act as agents for traditional Aboriginal owners on land matters. Presently, there are three Land Councils—the Tiwi Land Council (covering Melville and Bathurst Islands), the Northern Land Council (based in Darwin) and the Central Land Council (based in Alice Springs).

Provision is made under the Act for traditional Aboriginal owners to exercise substantial control over activities on their land, including mineral exploration and mining, and for them to benefit economically from the use of their land.

Where mining occurs on Aboriginal land, the Act provides that amounts equivalent to royalties received by the Northern Territory or the Commonwealth are paid from the Commonwealth's Consolidated Revenue Fund into the Aboriginals' Benefit Trust Account (ABTA). Thirty per cent of these moneys is for the benefit of Aboriginal communities affected by mining and 40 per cent is paid to the Land Councils to fund their administrative expenses. The remaining 30 per cent (less amounts needed for ABTA administration and supplementary payments to Land Councils for their administration) is available for the benefit of Aboriginal people throughout the Northern Territory.

National parks on Aboriginal land in the Northern Territory

In the Northern Territory a unique system is operating for certain national parks located on Aboriginal land. All of the land in the Uluru National Park and some of the land in the Kakadu National Park has been granted to appropriate Aboriginal land trusts, and then leased back to the Director, Australian National Parks and Wildlife Service (ANPWS) for use as national parks under the provisions of the *Aboriginal Land Rights (Northern Territory) Act 1976* and the *National Parks and Wildlife Conservation Act 1975.*

In Uluru National Park a Board of Management with an Aboriginal majority has been established to manage the Park in conjunction with ANPWS. Similar arrangements are being negotiated between the Northern Land Council (on behalf of traditional owners) and the ANPWS to apply in the Kakadu National Park.

In 1986 the Uluru (Ayers Rock–Mount Olga) National Park was nominated for world heritage listing by the Commonwealth with the support of the Northern Territory. The Park was inscribed on the World Heritage List in 1987. The second stage of the Kakadu National Park was also nominated for world heritage listing in 1987 and was inscribed on the World Heritage List the same year. The first stage of that Park had been listed in 1981.

On 10 September 1989 the Commonwealth presented title deeds to land in the Jawoyn (Katherine area) Land Claim, including part of the Nitmiluk (Katherine Gorge) National Park. These traditional owners signed an agreement leasing back the land in the Park to the Northern Territory Government to manage it as part of the National Park. The management arrangements for Nitmiluk (Katherine Gorge) National Park provide for significant involvement of Aboriginal people. The Board of Management for the Park has a majority of Aboriginal members.

Similar management arrangements exist in relation to the land in the Gurig National Park which was granted to the traditional Aboriginal owners in 1981 by the Northern Territory Government under the *Cobourg Peninsula Aboriginal Land and Sanctuary Act 1981.*

Aboriginal land in the States

The list below shows the areas of land that have been transferred to Aboriginal ownership or otherwise provided to Aboriginal people under secure title through the policies and programs operated by Commonwealth and State/Territory Governments.

Australian Capital Territory: In the Jervis Bay Territory the Commonwealth legislated to provide inalienable freehold title to 403 hectares of land at Wreck Bay for the Wreck Bay Aboriginal community. That legislation, the *Aboriginal Land Grant (Jervis Bay Territory) Act 1986*, came into effect on 16 January 1987. Title to that land was handed over in March 1987.

New South Wales: The *Aboriginal Land Rights Act 1983* created a three-tiered structure of local, regional and State Aboriginal Land Councils which hold freehold title to land totalling approximately 190 square kilometres. Land Councils may make claims to Crown lands that are not occupied and not needed for essential purposes.

The Act also provided for the payment into a fund of 7.5 per cent of the State land tax revenue over the ensuing 15 years. Half of this fund is set aside as capital for future years, with the balance meeting the costs of Land Council administration and land purchases.

Victoria: The *Aboriginal Land Rights Act 1970* vested title to the Lake Tyers and Framlingham Reserves (the only remaining Aboriginal reserves in Victoria) in trusts comprised of the Aboriginal residents.

In 1987, following a request from the Victorian State Government, the Commonwealth Government enacted legislation to grant freehold title over the Framlingham Forest and a former reserve at Lake Condah—1,153 hectares in all—to the local Aboriginal communities.

Queensland: Legislation passed in 1984 improved Aboriginal control over reserve lands without granting full title. Transfer of title under Deeds of Grant in Trust (a form of perpetual lease) to major Aboriginal and Torres Strait Island reserves took place during 1986 and 1987. The issuing of deeds to a large number of minor reserves is still under consideration.

Western Australia: Under the *Aboriginal Affairs Planning Authority Act 1972*, Aboriginal reserve land was vested in an Aboriginal Land Trust. In March 1986, following the defeat of an Aboriginal land bill in the Upper House of Parliament, the State Government announced a new program intended to grant Aboriginal communities secure title to land and to provide for services by administrative arrangement without the need for legislation.

Some of the measures included under this program are:

- the granting of 99-year leases to Aboriginal Land Trust land;
- the transfer of other reserves under the control of the State Department of Community Services to Aboriginal control; and
- facilitation of the excision from pastoral leases of living areas for Aboriginal people.

South Australia: The Aboriginal Land Trust of South Australia, established by an Act of Parliament in 1966, holds freehold title to former reserves (approximately 5,000 square kilometres). The Trust leases this land to Aboriginal communities.

The *Pitjantjatjara Land Rights Act 1981* vested freehold title to over 100,000 square kilometres, or 10 per cent of the State, in the north-west to the Pitjantjatjara people. In 1984, similar legislation provided for Aboriginal ownership of 76,000 square kilometres of the Maralinga lands in the far west of the State.

Tasmania: In 1986, the Commonwealth Minister for Aboriginal Affairs commissioned a report on Aboriginal land needs in Tasmania. The Tasmanian Government has agreed in 1989 to consider the transfer of two historically important areas, Oyster Cove and Wybalenna, to Aboriginal control.

ABORIGINAL AND TORRES STRAIT ISLANDER LAND TENURE AND POPULATION: 30 JUNE 1989

	Aboriginal population June 1986(a)	*As % of total population*	*Total land area (sq km)*	*Aboriginal freehold (sq km)*	*As % of total land*	*Aboriginal leasehold(b) (sq km)*	*As % of total land*	*Reserve/ mission (sq km)*	*As % of total land*
NSW and ACT*(c)*	60,231	1.1	804,000	507	0.0	842	0.1	—	—
Vic.	12,611	0.3	227,600	32	0.0	—	—	—	—
Qld	61,268	2.4	1,727,200	5	0.0	31,990	1.9	95	0.0
SA	14,291	1.1	984,000	183,649	18.7	508	0.1	—	—
WA	37,789	2.7	2,525,000	35	0.0	103,227	4.1	202,223	8.0
Tas.	6,716	1.5	67,800	2	0.0	—	—	—	—
NT	34,739	22.4	1,346,200	453,123	33.7	26,009	1.9	45	0.0
Australia	**227,645**	**1.5**	**7,681,800**	**637,353**	**8.3**	**162,576**	**2.1**	**202,363**	**2.6**

(a) 1986 Census. *(b)* Includes pastoral, special purposes, and local shire leases. *(c)* Includes Jervis Bay Territory.

Homeland centres and outstations

Since the early 1970s many Aboriginal people have made the decision to adopt a more independent and traditional way of life.

They have moved to remote areas where they have established small outstation communities. In the past year, approximately 130 outstations have been funded by the Department of Aboriginal Affairs. The majority of these communities are situated in the Northern Territory, Western Australia, South Australia and Queensland. The population of each outstation generally varies between 30 to 50 people. Funding for outstations over the past three years has been in excess of $25 million.

Aboriginal Cultural Activity

While the past 200 years has seen the erosion of much of the traditional fabric of Aboriginal lifestyle, a large and rich body of artistic heritage has survived and in parts of Australia continues to develop in traditions unbroken for thousands of years. In many communities the arts remain an integral part of social and religious life but have also acquired the new emphasis of reinforcing Aboriginal identity and asserting traditional values in the face of an encroaching wider community. For many artists and craftspeople, the arts also provide an important and culturally relevant means of income.

The Aboriginal artists are perhaps still best known for a Northern Australian tradition of painting with natural ochres on prepared sheets of eucalyptus bark. However this is just one aspect of the rich and varied forms of expression in the visual arts and crafts which include ceremonial body decoration, ground painting and sculpture, wood carving and fibre crafts.

In recent years there has been increased adaptation and use of non-traditional media by Aboriginal artists in remote tribal communities as well as by a growing movement of urban and rural based artists. For example, paintings on board and canvas, print making and adapted batik techniques have become important media for expression in the visual arts for numbers of artists in Central Australian communities.

Similarly the traditional performing arts which include music, complex song cycles, dance and mime, vary considerably in form throughout Australia. However all the traditional arts present a unique spirituality which gives a distinctiveness to Aboriginal cultural expression.

Arts

A modern resurgence of Aboriginal arts continues rich traditions spanning tens of thousands of years, but incorporates many new forms.

Aboriginal artistic expression ranges across art, music, dance, oral and written literature, graphic design, video and film. Some artistic forms draw heavily on ancient traditions but present a vibrant and living heritage which remains relevant to Aboriginal Australians.

Aboriginal art varies greatly in style and form from one area of Australia to another but retains a spirituality which gives a distinctiveness and common strength to the work. Artists in the tropical north of Australia are well known for their painting with natural ochres on bark but artists from Papunya in Central Australia, for example, express the themes of traditional sand drawings with acrylic paint on canvas and board. In recent times large canvasses have been introduced which help the paintings to reflect the scale of traditional sand designs, and artists have developed their traditional themes with new materials and colours to provide immense contemporary impact. Considerable success is being enjoyed in exhibitions of these paintings in major art centres in Australia as well as in Europe and America.

Given the strong growth in market demand for Aboriginal visual arts and crafts in recent years, both in Australia and overseas, the Commonwealth Government commissioned a Review to inquire into and make recommendations upon ways in which the effectiveness and efficiency of the industry could be improved. The report on the Review is a most comprehensive document which analyses the current state of the industry and provides detailed recommendations for an Aboriginal arts and craft industry strategy. It was estimated that there are currently about 6,000 Aboriginal producers of arts and craft generating total retail sales of about $18.5 million.

The Review report is being examined by the Government and implementation of its recommendations is under consideration.

Aboriginal musicians, whose music ranges from traditional song to rock and country music, are popular both in Australia and overseas. Aboriginal writers, poets and playwrights are also an emerging force in Australian literature.

The Aboriginal Arts Committee of the Australia Council offers a wide range of programs to assist Aboriginal initiatives. These include: the Aboriginal and Islander Skills Development Scheme (a theatre and dance school); Inada Holdings Pty Ltd (a commercial art and craft marketing company); the Centre for Aboriginal Studies in Music; and an association of Aboriginal writers, dramatists and people involved in oral literature.

Broadcasting and telecommunications

The Government has endorsed a strategy for the development of Aboriginal broadcasting and telecommunications which aims to ensure that appropriate broadcasting and communications services are available to the Aboriginal people, particularly the substantial Aboriginal population living in remote Australia.

This is a new and developing area of government responsibility, and policies in relation to it resulted from recommendations of a Task Force Report on Aboriginal and Islander Broadcasting and Communications titled *Out of the Silent Land*, published in 1984.

The policies were developed in consultation with Aboriginal broadcasters, the Department of Transport and Communications, the Australian Telecommunications Commission, the Australian Broadcasting Corporation and the Special Broadcasting Service.

The Government supports financially Aboriginal broadcasting resource groups in urban, rural and remote areas to enable them to produce radio and television material of relevance to local communities. Some of this material is being incorporated into programs for wider audiences, including metropolitan centres.

In 1986–87, more than 30 Aboriginal groups produced about 150 hours of public radio programming per week. In addition, the Central Australian Aboriginal Media Association broadcasts through the Australian Broadcasting Corporation high frequency inland service for up to 10 hours a day in four Aboriginal languages.

Implementation of the Broadcasting for Remote Aboriginal Communities Scheme (BRACS) is presently taking place. The Scheme resulted from recommendations of the Task Force Report on Aboriginal and Islander Broadcasting and Communications and was endorsed by the Government in October 1985. The BRACS program provides satellite reception and local re-broadcasting equipment for television and radio services and facilities for local organisation programs for remote Aboriginal and Torres Strait Islander communities which do not receive any radio or television services.

Language Practices

In the 1986 Census people were asked whether they spoke a language other than English at home. Among those who stated that they did, 405,000 (21 per cent) spoke Italian and a further 267,100 (14 per cent) spoke Greek. These were the two most prevalent responses, with other responses each representing less than 10 per cent. Altogether over 2 million people, most of whom were born overseas, spoke a non-English language at home.

Within this group proficiency in English varied according to age and birthplace. Ninety-two per cent of 5–24 year olds spoke English well or very well, compared with 57 per cent of those aged 65 years and over. The influence of birthplace was evident in the consistently higher level of proficiency in English among those born in Australia: 94 per cent of this group spoke English well or very well, compared with 81 per cent overall.

PERSONS (a) WHO SPOKE A LANGUAGE OTHER THAN ENGLISH AT HOME: LANGUAGE BY SEX AND BIRTHPLACE, JUNE 1986

Language spoken	*Males*	*Females*	*Total*		*Australian born*
	'000	'000	'000	per cent	'000
Italian	206.0	199.0	405.0	20.6	158.7
Greek	135.2	131.9	267.1	13.6	111.7
Chinese	65.2	65.6	130.8	6.7	11.0
German	52.9	56.6	109.4	5.6	21.4
Arabic/Lebanese	55.2	50.9	106.0	5.4	31.1
Spanish	35.2	32.5	68.0	3.5	10.2
Serbian, Croatian	34.4	32.2	66.6	3.4	20.7
Other Yugoslav	35.5	32.5	68.0	3.5	16.1
Polish	32.6	33.6	66.2	3.4	9.6
Dutch	29.4	32.0	61.4	3.1	7.6
Vietnamese	34.1	25.3	59.4	3.0	1.6
Maltese	29.7	28.2	57.8	2.9	15.5
French	24.8	26.6	51.4	2.6	15.5
Macedonian	22.1	21.0	43.1	2.2	14.1
Aboriginal languages	18.4	18.6	36.9	1.9	36.7
Turkish	16.2	15.1	31.2	1.6	6.1
Hungarian	15.5	15.4	30.9	1.6	5.0
Russian	9.9	11.8	21.7	1.1	4.0
Other	141.7	140.9	282.7	14.4	61.5
Total *(b)* ('000)	**1,022.4**	**1,000.5**	**2,022.8**	**100.0**	**568.2**

(a) Excludes children aged under 5 years. *(b)* Includes language not stated responses.

PERSONS WHO SPOKE A LANGUAGE OTHER THAN ENGLISH AT HOME: PROFICIENCY IN ENGLISH BY BIRTHPLACE AND AGE, JUNE 1986

	Age (years)				
Proficiency in English	*5–24*	*25–44*	*45–64*	*65 and over*	*Total*
	—per cent—				
Total population					
Speaks English:					
Well/very well	92.2	82.1	71.9	57.0	80.7
Not well	6.8	16.4	24.4	28.6	16.3
Not at all	1.0	1.6	3.7	14.4	3.0
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Total *(a)* ('000)	**647.0**	**667.4**	**504.2**	**170.3**	**1,989.0**
Australian born					
Speaks English:					
Well/very well	95.6	94.2	86.1	74.4	94.4
Not well	3.9	5.1	11.6	17.7	4.8
Not at all	0.5	0.7	2.2	7.9	0.8
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Total *(a)* ('000)	**403.2**	**124.0**	**32.8**	**14.4**	**574.4**

(a) Includes proficiency in English not stated but excludes language spoken not stated.

National Policy on Languages

Australia's National Policy on Languages was developed in response to a report of the Senate Standing Committee on Education and the Arts which recommended the development and coordination of language policies at the national level. A special consultant was appointed to coordinate their development. The Lo Bianco Report which resulted was endorsed by the Prime Minister on 26 April 1987 and tabled in the Senate on 4 May 1987.

The Government provided $15 million in 1987–88, rising to $28 million in 1988–89 and $27.3 million in 1989–90, for the implementation of the Policy. These funds were used to introduce five new programs and supplement one existing program in key language areas, and for the establishment and operation of the Australian Advisory Council on Languages and Multicultural Education (AACLAME).

The new programs were the National Aboriginal Languages Program, the Australian Second Language Learning Program, the Adult Literacy Action Campaign, the Multicultural and Cross-cultural Supplementation Program, and the Asian Studies Program. The existing program which was supplemented was the New Arrivals element of the English as a Second Language Program.

National Aboriginal Language Program—NALP

The NALP recognises the unique and important place of Aboriginal and Torres Strait Islander languages in Australia's linguistic heritage.

Funding for the program was $0.5 million for 1987–88, rising to $1 million for both 1988–89 and 1989–90. The funds are intended to support a range of language maintenance and learning projects such as:

- language resource centres;
- bilingual programs;
- translating and interpreting services;
- literacy programs.

Fifty-three projects were approved for funding in 1988–89 by the Minister for Employment, Education and Training. Some of the factors taken into account when selecting the projects included the state of the language concerned; the degree of Aboriginal support and involvement; and the degree of funding available to an organisation or community from other sources.

Australian Second Language Learning Program—ASLLP

The National Policy on Languages promotes the study of at least one language in addition to English as an expected part of the educational experience of all Australian students. ASLLP, funded under the National Policy on Languages, is intended to provide greater opportunities for this to occur. An amount of $3.8 million was made available under the program in the 1987–88 budget. This funding, which increases to $7.5 million in 1988–89 and 1989–90, is to be applied on a calendar year basis.

For 1988, education authorities were free to allocate funds among languages according to locally determined priorities and needs. Authorities were asked, however, to take note of the Federal Government's view that due emphasis should be placed on languages relevant to economic development, trade and tourism whilst recognising the need to improve provision for community languages.

ASLLP provided for activities such as curriculum and materials development; the professional development of teachers; the expansion of existing programs; the trialling of innovative techniques in second language teaching and learning; support for schools offering a specialist curriculum on language studies; and the application of distance technology to language learning, particularly for students in country areas.

Adult Literacy Action Campaign

Funding of $1.97 million was provided in 1988-89 for the second and final year of the Adult Literacy Action Campaign. An interim evaluation of the campaign is being conducted on behalf of the National Consultative Council for International Literacy Year 1990.

Apart from $0.25 million set aside for national-level projects, the funds were administered through State Government authorities for expansion of courses, curriculum and staff development.

Multicultural and Cross-cultural Supplementation Program—MACSP

In 1988–89 MACSP provided funds on a submission basis to tertiary institutions and approved organisations to support the introduction and extension of cross-cultural and community language elements within existing professional and para-professional courses and develop curriculum materials for use in such courses.

The professional or para-professional areas targeted by the program include medicine and health, law, accounting and commerce, industrial relations and management, teaching, social welfare, librarianship and archives administration, and tourism.

Asian Studies

The Asian Studies Council (ASC) administers funds of $1.95 million which were allocated for 1987–88, 1988–89 and 1989–90 under the National Policy on Languages to boost the study of Asian languages and cultures in Australia. In addition $1 million has been allocated for the next three years under New Policy for Asian Studies Teacher Education.

The ASC has negotiated a collaborating approach between State, Territory and non-government education authorities to the development of curriculum and teacher training, with one or more States taking prime responsibility for agreed projects. Project designs include processes to keep all parties informed of developments so that the final products will be mutually acceptable.

The ASC commissioned a major inquiry into the teaching of Asian languages and studies in higher education. The inquiry has identified programs to improve the quality and spread of Asian studies and languages courses.

ASIAN LANGUAGES: STUDENT NUMBERS IN 1988

	Chinese	*Indonesian*	*Japanese*	*Other*	*Total*
Primary	4,274	5,689	6,928	3,866	20,757
Secondary	6,692	17,814	31,832	2,437	58,775
Higher Education	1,597	793	5,237	n.a.	n.a.

In 1988 those taking Asian languages formed 3.17 per cent of all year 12 enrolments and 24.27 per cent of year 12 language course enrolments.

English as a Second Language in schools

The objective of the English as a Second Language Program is to assist schools and school systems to develop the English language competence of students of non-English speaking background (NESB).

The program has two elements:

- The *general support element* provides approximately $44 million annually to assist schools and education authorities with the provision of specialist services specifically directed at improving the English language competence of NESB students resident in Australia (including those born in Australia).
- The *new arrivals element* provides $2,248 per student for intensive English language programs for newly arrived NESB students.

In 1988, 14,500 new arrivals were catered for in intensive classes in government schools and special language centres and 2,244 in non-government schools. Details are not yet available for activities funded in 1988 under ESL program elements. Information in respect of 1987 shows that some 111,000 government school students and 77,000 non-government students benefited from activities funded through the general support element. Over 1,900 specialist teachers were funded under all elements in government schools and over 400 in non-government schools. Other major items of expenditure involved the salaries of ancillary staff (consultants, bilingual aides, counselling staff), curriculum and other materials and professional development.

Ethnic Schools Program

The major purpose of the Ethnic Schools Program is to help students of non-English speaking background maintain their relevant languages and cultures. A secondary aim is to provide further opportunities for all children to gain access to the different community languages and cultures within Australian society.

The Ethnic Schools Program assists some 600 ethnic community organisations to operate classes in the languages and cultures of their communities. These classes may be held either after formal school hours (after hours classes) or during formal school hours (insertion classes). 'Ethnic' in this context is used to denote languages and cultures other than those of English-speaking peoples. The Ethnic Schools Program does not apply to language and cultural studies provided by formal schools. This Commonwealth funding program has been operating since 1981, and since 1984, groups providing instruction in Aboriginal and Torres Strait Islander languages and cultures have been eligible to receive funding under it.

In 1988, 207,697 students were funded with 64,998 of these being taught in classes outside regular school hours, the remainder in insertion classes in regular schools.

The number of languages funded in 1988 was 53 with the most popular being Italian (66 per cent of enrolments), Greek (11 per cent), Arabic (4.8 per cent), Chinese (5.0 per cent) and Vietnamese (2.4 per cent). Details of major languages funded and student enrolments in recent years are shown below.

ETHNIC SCHOOLS PROGRAM: ENROLMENTS BY TYPE OF CLASS

Type of class	*1986*	*1987*	*1988*
		—No. of students—	
After hours classes	82,745	71,056	64,998
Insertion classes	140,478	138,754	142,699
Total	*223,223*	*209,810*	*207,697*

ETHNIC SCHOOLS PROGRAM: FUNDING TO MAJOR LANGUAGES

Language	*1986*	*1987*	*1988*
		—per cent—	
Italian	60.9	64.8	66.3
Greek	12.6	11.6	11.0
Arabic	6.4	5.3	4.8
Chinese	5.0	5.1	5.0
Vietnamese	2.5	2.4	2.4
Spanish	1.6	1.4	1.2
Turkish	1.5	1.2	1.2
German	1.1	0.9	0.9
Croatian	1.2	0.8	0.8
Polish	0.9	0.7	0.8
Hebrew	0.8	0.7	0.7
Macedonian	0.7	0.7	0.7

Adult Education

Adult education is the most decentralised of the education sectors. Courses offered generally do not lead to a qualification. It provides many people with educational opportunities otherwise unavailable, and while it is considered a valuable starting point in encouraging people to go on to award studies in TAFE and higher education, it also fulfils many cultural and recreational roles. The range of providers is enormous: from commercial and private industry, church and cultural groups to professional bodies; from the YMCA, higher education institutions, TAFE and Workers Educational Associations, to various State government departments; from public libraries, museums and galleries to Commonwealth government funded programs.

The National Directory of Adult and Community Education Associations and Centres, published by the Australian Association of Adult and Community Education (AAACE) in 1989, has almost 900 entries.

Throughout the 1980s there has been a significant growth in non-government community based adult education run on a voluntary or semi-voluntary basis. These courses originate from the requirements, demands and initiatives of local communities and are offered by learning centres, community care centres, community schools, education centres (particularly in country areas), voluntary teaching networks, literacy groups, women's education programs, teachers' centres, ethnic networks, discussion centres and a variety of neighbourhood centres. Courses range from general interest, recreational and leisure activities, personal development, social awareness and craft through to vocational, remedial and basic education. Community based adult education constitutes a new trend in education. It is open to all, and non-formal characteristics demonstrate the capacity of the community to develop alternatives to institutionalised education. It is estimated that in 1987 there were nearly 200,000 participants in these courses.

The higher education sector plays an integral part in adult education through programs of continuing education in professional development, preparatory skills, and general education. These courses are offered by institutions in response to industry and government initiatives and are at a level consistent with the general teaching of the institutions. In 1984, enrolments in these programs exceeded 160,000.

The TAFE sector is the largest provider of adult recreational and leisure courses. 1987 enrolments in these courses were 510,457. TAFE also offers the largest program of vocational and remedial courses.

There is at present no statistical system to identify the entire scope and extent of adult education. In particular the number of courses run by associations and the private sector is unknown. However, the 1986–87 National Social Science Survey now gives a better basis for estimating participation rates in adult education. The survey found that about six out of every ten Australians (63 per cent) over the age of 18 have taken at least one course. Men and women are about equally likely to take courses. Overall it is estimated that more than one million Australians participate in adult education each year. If training in industry is added, this figure is well over three million (*see* Butler p.7).

Cultural and Community Activities

Multiculturalism

Australia's non-discriminatory immigration policy has resulted in a diverse society in which people of different ethnic and racial origins live together sharing a commitment to the language, laws, institutions and interests of Australia.

The domestic policies which successive Governments have adopted in response to Australia's migrant intake have changed dramatically in the post-war period.

The first of these was the assimilationist approach, which was based on the expectation that immigrants would be of British or Northern European origin and would readily embrace the dominant Anglo-Celtic values. By the mid 1960s, however, it was realised that assimilationist policies had not succeeded in sublimating the ethnic identity of immigrant groups, and was in fact creating areas of ethnic disadvantage.

In response the Government initiated a range of education and welfare assistance programs, including the establishment of the Council on Overseas Professional Qualifications and the introduction of English in the Workplace courses and the Telephone Interpreter Service.

The policy underwent further development during the early 1970s. The new approach focused on, amongst other things, social welfare and cultural retention issues and became known as 'multiculturalism'.

In 1978 the Galbally Report on Government Post-Arrival Programs and Services recommended an expansion of Government post-arrival services for immigrants. In particular it recommended that:

- all members of our society should have equal opportunity to realise their full potential and have equal access to programs and services; and
- every person should be able to maintain their culture without prejudice or disadvantage and should be encouraged to understand other cultures.

Office of Multicultural Affairs

The Office of Multicultural Affairs was established in 1987 within the Department of the Prime Minister and Cabinet. The Office's responsibilities include promoting an understanding and appreciation of multiculturalism in the Australian community and advising on appropriate government responses to the needs of a multicultural society.

An Advisory Council on Multicultural Affairs was also established to provide advice to the Government and to act as a channel of communication between the Government and the community. The Council also assisted with the development of the National Agenda for a Multicultural Australia.

National Agenda for a Multicultural Australia

The Government's policies on multiculturalism are founded on three principles:

- cultural identity: the right of all Australians, within carefully defined limits such as the rule of law and parliamentary democracy, to express and share their individual cultural heritage, including their language and religion;
- social justice: the right of all Australians to equality of treatment and opportunity, and the removal of barriers of race, ethnicity, culture, religion, language, gender or place of birth; and
- economic efficiency: the need to maintain, develop and utilise effectively the skills and talents of all Australians, regardless of background.

The Government's policies on multiculturalism are set out in the National Agenda for a Multicultural Australia, launched on 26 July 1989. The Agenda defines multiculturalism as follows:

> 'In a descriptive sense multiculturalism is simply a term which describes the cultural and ethnic diversity of contemporary Australia. We are, and will remain, a multicultural society.
> As a public policy multiculturalism encompasses government measures designed to respond to that diversity. It plays no part in migrant selection. It is a policy for managing the consequences of cultural diversity in the interests of the individual and society as a whole.'

The Agenda also includes a series of policy initiatives designed to meet both short term needs and long term objectives. The major initiatives contained in the Agenda are:

- new arrangements for assessing overseas skills and qualifications;
- a major community relations campaign, at a cost of $5.7 million over three years, jointly coordinated by the Office of Multicultural Affairs, the Human Rights and Equal Opportunity Commission, the Department of Aboriginal Affairs and the Department of Immigration, Local Government and Ethnic Affairs;
- strengthening of the Government's Access and Equity strategy, designed to improve access to government services, and to overcome barriers of language, culture and prejudice;
- legislation to establish the Special Broadcasting Service as an independent corporation and extension of SBS television to Darwin and regional centres in Victoria, Queensland, South Australia and Tasmania;
- a package of English language measures including substantially increased resources for on-arrival courses and English in the Workplace;
- a firm government commitment to continued support for second language learning, and a 10 per cent increase in funding for ethnic schools; and
- reviews of the law and administrative decision making from a multicultural perspective.

Survey of Attitudes

A major attitudinal survey has shown that most Australians support the objectives of the Australian Government's policies on multiculturalism.

The survey showed a high rate of community approval for the eight goals of multiculturalism proposed by the Advisory Council on Multicultural Affairs and included in the National Agenda for a Multicultural Australia. Ninety-five per cent of respondents to the survey agreed that multiculturalism is a fact of life in Australia today; 85 per cent believed that multicultural policies help tourism and trade; and 62 per cent thought these policies promote a 'fair go' for all Australians.

Religious affiliation

According to the 1986 Census results, Australians were predominantly Christian. Catholics formed the largest group, representing 26 per cent of the total population, followed by Anglicans, 24 per cent. This reverses the situation in 1976 when the Anglican group dominated with 28 per cent. In 1986 the third largest group was the Uniting Church with 8 per cent. In all, 11.4 million Australians (73 per cent) referred to themselves as being of Christian denomination.

Affiliation with a non-Christian religion was claimed by 316,000 Australians (2 per cent of the population). This was an increase of almost 150 per cent on 1976 when less than 1 per cent claimed non-Christian affiliation. At that time the Jewish group was the largest with 53,000 people. By 1986 the main non-Christian religions were Muslim (110,000) and Buddhist (80,000), while those affiliated with the Jewish religion numbered 69,000.

Almost 2 million Australians (13 per cent of the total population) described themselves in 1986 as having no religion.

RELIGIOUS AFFILIATION, AUSTRALIA

	1976		*1986*	
Religion	*('000)*	*(per cent)*	*('000)*	*(per cent)*
Christian				
Catholic *(a)*	3,482.8	25.7	4,064.4	26.1
Anglican	3,752.2	27.7	3,723.4	23.9
Uniting *(b)*	—	—	1,182.3	7.6
Methodist—incl. Wesleyan	983.2	7.3	*(c)*	*(c)*
Presbyterian and Reformed	900.0	6.6	560.0	3.6
Orthodox	372.2	2.7	427.4	2.7
Lutheran	191.5	1.4	208.3	1.3
Baptist	174.2	1.3	196.8	1.3
Pentecostal	38.4	0.3	107.0	0.7
Churches of Christ	86.9	0.6	88.5	0.6
Salvation Army	63.3	0.5	77.8	0.5
Jehovah's Witness	41.4	0.3	66.5	0.4
Seventh Day Adventist	41.5	0.3	48.0	0.3
Latter Day Saints/Mormon	*(d)*	*(d)*	35.5	0.2
Brethren	20.7	0.2	23.2	0.1
Congregational	53.4	0.4	16.6	0.1
Oriental Christian	*(d)*	*(d)*	10.4	0.1
Other Protestant	206.2	1.5	199.4	1.3
Christian n.e.i.	236.9	1.7	346.4	2.2
Total	*10,644.9*	*78.6*	*11,381.9*	*73.0*
Non-Christian				
Muslim	45.2	0.3	109.5	0.7
Buddhist	*(e)*	*(e)*	80.4	0.5
Jewish	53.4	0.4	69.1	0.4
Hindu	*(e)*	*(e)*	21.5	0.1
Other non-Christian	30.4	0.2	35.7	0.2
Total	*129.1*	*1.0*	*316.2*	*2.0*
Other				
Non-theistic	*(f)*	*(f)*	4.9	—
Inadequately described	51.3	0.4	58.0	0.4
No religion (so described)	1,130.3	8.3	1,977.5	12.7
Not stated	1,593.0	11.8	1,863.6	11.9
Total	**13,548.4**	**100.0**	**15,602.2**	**100.0**

(a) Roman Catholic and Catholic (non-Roman). *(b)* The Uniting Church was formed in 1977 from the Methodist, Congregational and part of the Presbyterian churches. *(c)* People who responded Methodist in 1986 were coded to Uniting. *(d)* Included in Christian n.e.i. *(e)* Included in other non-Christian. *(f)* Not available.

ENVIRONMENT AND CONSERVATION

The Australian Constitution does not include a reference to environment or conservation. Commonwealth powers in environmental protection, nature conservation and related fields arise from, or are incidental to, other specified powers. These specific Commonwealth powers include the power to legislate with respect to Territories of the Commonwealth, overseas and interstate trade and commerce, external affairs, corporations, taxation, defence, quarantine and granting financial assistance to States. Effectively the powers relating to environment and conservation are divided among Commonwealth, State and local government. As a practical matter however, most decisions on environmental protection, nature conservation, land use and land management in the States are the responsibility of the State governments.

The *Environment Protection (Impact of Proposals) Act 1974* was the first piece of Commonwealth legislation to specifically address environmental issues. The Act defined environment as comprising 'all aspects of the surroundings of human beings, whether affecting them as individuals or in social groupings', and set up procedures to review the environmental impact of development proposals which involved Commonwealth Government decisions.

Since then, the Government has intervened on a number of occasions where environmental values were attracting broad community attention, notably the mining of Fraser Island in Queensland and the damming of the Franklin River in South West Tasmania. Through these and other actions, the Commonwealth Government has been drawn into areas of environmental policy, planning and management not adequately covered by existing State administrative arrangements.

Commonwealth Responsibility for Environment and Conservation

In Commonwealth legislation, environment includes all aspects of human surroundings, whether affecting individuals or social groupings. Thus the environmental responsibilities of the Government relate to a broad range of activities bearing on the protection, conservation and enhancement of environmental quality and amenity. These responsibilities are shared among many agencies of government although a special focus is provided by the Ministry of the Arts, Sport, the Environment, Tourism and Territories.

The Commonwealth is responsible for the environment of the Territories other than the Northern Territory and the ACT, for the environmental impact of actions and decisions by its agencies operating in the States, and for contributing to international activities and standards for environmental management. The Commonwealth also plays a major role in the national coordination of environmental protection and conservation activities, and contributes substantively to environmental research, environmental education and information exchange.

Tasmanian World Heritage Area Ministerial Council

The Tasmanian World Heritage Area Ministerial Council was established in 1984 by agreement between the Commonwealth and the Tasmanian governments. The members of the Council are the Ministers responsible for environmental matters in both governments, as well as the Tasmanian Premier and the Commonwealth Minister for Justice.

The Council provides a forum to advise both Governments on broad policy, management and financial matters relating to the World Heritage Area. Specific matters considered by the Council have included progress on the preparation of plans of management for the World Heritage Area; studies on the monitoring and rehabilitation of erosion on the banks of the lower Gordon River; development of walking tracks; and the provision of accommodation and other public facilities.

National Activities

National collaboration on environmental matters is facilitated through Commonwealth and State ministerial councils and other advisory bodies, and through a variety of nationally coordinated activities and programs.

Australian and New Zealand Environment Council

The then Australian Environment Council was established in 1972 by agreement between the Prime Minister and the State Premiers. The members of the Council are the ministers responsible for environmental matters in each State, internal Territory and the Commonwealth Government. New Zealand and Papua New Guinea have observer status on the Council. In July 1989, New Zealand was formally given membership status where before it had been an observer. Papua New Guinea has observer status on the Council.

The Council provides a forum for consultation, cooperation and liaison on matters concerning environmental management and pollution control. These matters have included the control of emissions and noise from motor vehicles, the use and disposal of hazardous chemicals, noise control, water quality, air pollution, solid-waste management, the economics of pollution abatement policies and environmental impact assessment, coastal management, land use policy, biotechnology and climate changes induced by human activities.

Council of Nature Conservation Ministers

The Council of Nature Conservation Ministers was established in 1974 by agreement between the Prime Minister and State Premiers. It comprises ministers with nature conservation responsibilities in each State, internal Territory and the Commonwealth Government as well as the Commonwealth Minister responsible for the Commonwealth Scientific and Industrial Research Organization. New Zealand and Papua New Guinea have observer status on the Council.

The Council provides a forum for consultation, cooperation and liaison on matters relating to the conservation and management of Australia's flora and fauna. Specific matters considered by the Council have included trafficking in native animals and plants, culling of populations of native species, protection of endangered and threatened plants and animals, the control of diseases affecting or likely to affect natural ecosystems in Australia, ranger training, management of national parks, and identification of wilderness areas.

Australian Ionising Radiation Advisory Council

The Australian Ionising Radiation Advisory Council advises the Government on matters such as fall-out over Australia from nuclear weapons testing, health effects of exposure to ionising radiation, radioactive waste management, visits of nuclear powered warships, and licensing and regulation of nuclear activities.

National Conservation Strategy for Australia

Following the international launch of the World Conservation Strategy in 1980, the Commonwealth Government, all States and the Northern Territory agreed to cooperate in developing a National Conservation Strategy for Australia which would aim to achieve 'sustainable development'—that is, harmony between development and conservation of Australia's living resources and supporting ecosystems. After wide consultation with the States, non-government conservation groups, industry and the community, consensus was obtained on a strategy at a national conference held in June 1983.

The Commonwealth Government endorsed the National Conservation Strategy for Australia in June 1984. The Northern Territory and most State governments have also endorsed the Strategy. Victoria and Western Australia have prepared State Conservation Strategies. In various ways, all governments have undertaken nature conservation activities consistent with the aims of the National Conservation Strategy.

Our Country Our Future

A statement on the Environment entitled *Our Country Our Future* was made by the Commonwealth Government on 20 July 1989. The Statement promised to deliver environmentally sustainable development via a mix of political commitment and community support.

As part of a package to support environmentally sustainable development the Government introduced many new programs, including:

- the development of a strategy comprising a coordinated research program on regional climate modelling and support for development of national and international responses to greenhouse issues;
- One Billion Trees Program to encourage the growth of an additional billion trees by the end of the century;

- Save the Bush Program which is aimed at ensuring the survival of remnant native vegetation;
- Endangered species Program which hopes to conserve the existing indigenous species in their natural habitat;
- the development of the Environmental Resources Information Network (ERIN) to draw together information on endangered species, vegetation types and heritage sites;
- the establishment of a Coastal Zone Management Working Group to prepare a strategy for cooperative integrated management of Australia's coastal areas;
- the development of a $320 million package for Landcare which consists of the Year/Decade of Landcare starting in 1990, a review of rural policies and taxation arrangements related to land care issues, and an expansion of the existing National Soil Conservation Program which is administered by the Department of Primary Industries and Energy.

National Tree Program—NTP

The NTP aims to conserve and establish trees and associated vegetation for community and private benefit throughout Australia. The objectives of the program are to increase selectively rural tree cover, promote coordinated action by individuals, governments and the community generally to conserve, plant and regenerate trees, and to develop public awareness of the value of trees. The administration of the NTP and the One Billion Trees Program is through Greening Australia Ltd.

A national tree data base (TREDAT) has been established to monitor planting under the NTP and the One Billion Trees Program.

Rainforest conservation

The Federal Government agreed to provide $22.5 million over the two years to 1987–88 for a National Rainforest Conservation Program which included, inter alia, studies of the tourism potential of certain rainforests and funding of interpretative and visitor facilities.

Australian Biological Resources Study

The Australian Biological Resources Study (ABRS) was established in 1973 to stimulate taxonomic and ecological studies of Australian flora and fauna through the provision of grants for research and publication. ABRS responsibilities include provision of advice on national taxonomic collections and establishment and maintenance of a national taxonomic data bank. Much of the work of the study is done in State museums, botanic gardens and herbaria which were established during the last century. CSIRO also carries out important research relating to flora and fauna.

Current major projects of ABRS include preparation of a 60 volume *Flora of Australia*, a 10 volume *Fauna of Australia*, compilation of a 70 volume *Zoological Catalogue of Australia* and establishment of data base exchange systems for museums and herbaria for biogeographic and taxonomic information.

INFOTERRA

The Department of the Arts, Sport, the Environment, Tourism and Territories is the Australian national focal point for INFOTERRA. INFOTERRA is an international information network, developed by the United Nations Environment Programme, to assist organisations and individuals in locating the sources of environmental information. The Department is also the INFOTERRA regional service centre for South-East Asia and the South Pacific. Its function is to assist countries within the region and to improve their environmental information capability and service.

Control of environmental contaminants

Various programs are concerned with the control of environmental contaminants. Final plans are being made for a national chemicals notification and assessment scheme. The Environment Protection (Sea Dumping) Act controls dumping of wastes in marine waters.

National capacity for monitoring air pollution is being strengthened through a national monitoring, data acquisition and archiving program being implemented in conjunction with the States. Other activities cover codes of practice for activities involving radioactive materials, waste management, monitoring of the marine environment, environmental noise and air pollution control strategies.

Voluntary conservation organisations

The Commonwealth Government makes grants annually to voluntary conservation organisations to assist them in their environmental awareness and education campaigns.

Statutory Authorities

Australian National Parks and Wildlife Service—ANPWS

The ANPWS was established under the *National Parks and Wildlife Conservation Act 1975*. The ANPWS is the principal adviser to the Commonwealth Government on national nature conservation and wildlife policies. It works in close cooperation with other Commonwealth authorities and with relevant State and Territory agencies.

The ANPWS is responsible for management of parks and reserves declared under the Act. Most significant of these are Kakadu National Park and Uluru (Ayers Rock–Mount Olga) National Park in the Northern Territory. National parks are also declared on Norfolk Island and Christmas Island and four national nature reserves have been declared in Australian waters. Ningaloo Marine Park is declared jointly under the National Parks and Wildlife Conservation Act and Western Australian legislation.

Wildlife conservation and management programs include the regulation and control of trade in wildlife and wildlife products through the administration of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*; administration of the *Whale Protection Act 1980*; administration of certain international agreements; and cooperative programs with the States with an emphasis on rare and endangered species.

The ANPWS is also charged with the delivery of programs to enhance Aboriginal employment and development opportunities in nature conservation and land management related fields.

In addition the ANPWS carries out and supports research relevant to its charter and delivers public information and education programs on nature conservation issues.

Great Barrier Reef Marine Park Authority

This Authority was established by the *Great Barrier Reef Marine Park Act 1975*. The Authority's goal is to provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity through the development and care of the Great Barrier Reef Marine Park.

The Marine Park covers an area of 344,000 square kilometres representing 98.5 per cent of the region. The value of economic activity in the Marine Park has been estimated at $1,000 million per annum.

Management of the Marine Park is a cooperative venture with Queensland Government agencies. The main strategy used in management of the Park is 'zoning'. Zoning plans separate potentially conflicting activities while allowing all reasonable uses and ensuring the long-term conservation of the Reef's ecosystem.

The Authority also operates the Great Barrier Reef Aquarium which features a living coral reef system. The Aquarium aims to enhance community understanding of the Great Barrier Reef and support for management of the Marine Park by providing a readily accessible coral reef environment onshore.

Supervising Scientist for the Alligator Rivers region

Special arrangements have been made for minimising the environmental impact of uranium developments in the Northern Territory. The Commonwealth has appointed a Supervising Scientist who has overall responsibility to ensure the protection and restoration of the environment of the Alligator Rivers region from the effects of mining.

TRAVEL AND TOURISM

Overseas Travel

Statistics about travellers to and from Australia are classified in the first instance by the actual or intended length of stay in Australia or abroad; this classification distinguishes between long-term and short-term movement.

Statistics of permanent and long-term movement are shown in Chapter 6, Demography. Statistics of short-term arrivals and departures which are in the nature of travel statistics are given below.

Short-term movement: defined as comprising visitor arrivals and Australian resident departures where the intended stay in Australia or abroad is for a period of less than twelve months, together with departures of visitors and returns of Australian residents who have stayed in Australia or abroad for less than twelve months.

Short-term movement excludes persons who arrive in and depart from Australia on the same ship's voyage or on the same flight (variously called 'direct transit' or 'through' passengers), or who change flights without leaving the airport's transit area; passengers on pleasure cruises commencing and finishing in Australia; and all crew. However, it includes persons who pass through the customs barrier and declare the purpose of their visit to Australia to be 'in transit'. Short-term visitors are more numerous than long-term visitors and have come to be regarded as 'tourists' by many users of the statistics.

SUMMARY OF SHORT-TERM TRAVELLER STATISTICS

	Overseas visitors		*Australian residents*	
	Arrivals in Australia	*Departures from Australia*	*Departures from Australia*	*Arrivals in Australia*
Annual average—				
1971–75	475,900	479,000	647,600	631,400
1976–80	684,700	655,400	1,077,300	1,062,100
1981–85	998,600	966,600	1,337,600	1,306,000
Year—				
1983	943,900	928,900	1,253,000	1,219,700
1984	1,015,100	985,800	1,418,600	1,374,700
1985	1,142,600	1,096,500	1,512,000	1,494,700
1986	1,429,400	1,363,800	1,539,600	1,513,200
1987	1,784,900	1,701,200	1,622,300	1,586,300
1988	2,249,300	2,174,100	1,697,600	1,637,900

In addition to the basic classification of travellers shown above, certain other characteristics are ascertained. These are: sex, age, marital status, country of citizenship, country of birth, intended or actual length of stay, purpose of journey, mode of transport, country of residence or where most time was or will be spent, country of embarkation or disembarkation, State of residence or where most time was or will be spent, and State or country of embarkation or disembarkation.

The categories shown in the previous table are cross-classified by various characteristics listed above and resulting statistics are shown in considerable detail in quarterly and annual publications. Certain unpublished information is available on request. Selected traveller statistics are shown in the following tables.

Short-term travel is subject to marked seasonal variation, December being the peak month for the arrival of overseas visitors and the departure of Australian residents.

In 1988 the majority of Australian residents departing for short-term visits abroad intended to stay for under one month, with 50 per cent intending to stay for under 3 weeks. The majority of short-term visitor arrivals to Australia intended to stay under three weeks, with 47 per cent intending to stay under 2 weeks.

Statistics for Australian residents refer to their total time away from Australia; for overseas visitors they refer only to the Australian portions of their trips.

In the case of both Australian residents departing and overseas visitors arriving, the most common reason for visit was 'holiday', followed by 'visiting relatives' and 'business' as the second and third most common reasons.

SHORT-TERM MOVEMENT: ARRIVALS AND DEPARTURES OF OVERSEAS VISITORS AND AUSTRALIAN RESIDENTS BY MONTH OF ARRIVAL OR DEPARTURE, AUSTRALIA, 1988

(persons)

	Overseas visitors		*Australian residents*	
Month	*Arriving*	*Departing*	*Departing*	*Returning*
January	161,300	207,700	113,200	196,400
February	180,400	175,200	94,400	112,200
March	185,200	176,600	138,600	107,600
April	160,500	172,400	132,400	121,000
May	157,100	182,500	129,200	104,000
June	163,800	143,400	165,700	118,800
July	203,300	171,900	153,300	162,400
August	196,900	200,300	141,900	136,900
September	179,600	181,600	170,300	160,600
October	207,300	192,500	127,800	188,400
November	208,000	198,200	124,100	128,600
December	245,800	171,800	206,700	101,200
Total	**2,249,200**	**2,174,100**	**1,697,600**	**1,638,100**
Sea travellers as a percentage of total	0.44	0.37	0.26	0.24

SHORT-TERM MOVEMENT—DEPARTURES OF AUSTRALIAN RESIDENTS: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1988 (a)

(persons)

	Main purpose of journey—						
Intended length of stay	*Visiting relatives*	*Holiday, accompanying business traveller(b)*	*Convention*	*Business*	*Employment*	*Other and not stated*	*Total*
Under 1 week	12,100	41,800	5,600	64,500	3,900	10,400	138,300
1 week and under 2 weeks	30,700	268,900	14,300	70,800	1,900	15,700	402,300
2 weeks and under 3 weeks	38,300	209,900	7,700	46,600	1,500	10,200	314,300
3 weeks and under 1 month	37,700	93,200	3,800	23,100	1,100	7,000	165,900
1 month and under 2 months	96,800	155,100	4,200	31,500	3,500	11,100	302,300
2 months and under 3 months	53,900	70,500	1,100	11,100	2,100	6,700	145,400
3 months and under 6 months	47,800	58,100	300	8,600	4,300	7,600	126,500
6 months and under 9 months	15,500	21,400	100	4,300	3,900	5,300	50,500
9 months and under 12 months	9,500	19,200	*	3,100	6,100	7,900	45,700
Not definite, not stated	1,100	2,600	100	800	100	1,600	6,300
Total	**343,400**	**940,700**	**37,200**	**264,400**	**28,400**	**83,500**	**1,697,500**

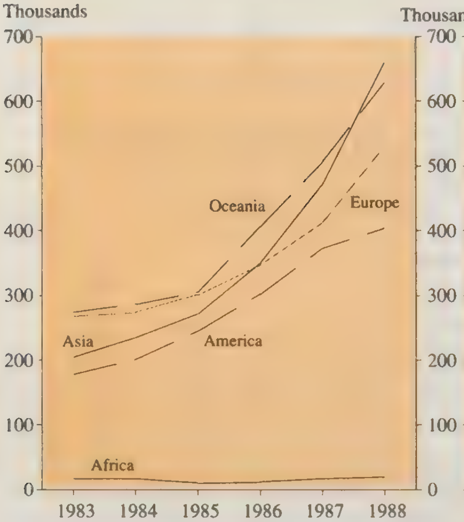
(a) Asterisk (*) denotes that figures are subject to sampling variability too high for most purposes. (b) Includes student vacation.

SHORT-TERM MOVEMENT—ARRIVALS OF OVERSEAS VISITORS: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1988 (a)
(persons)

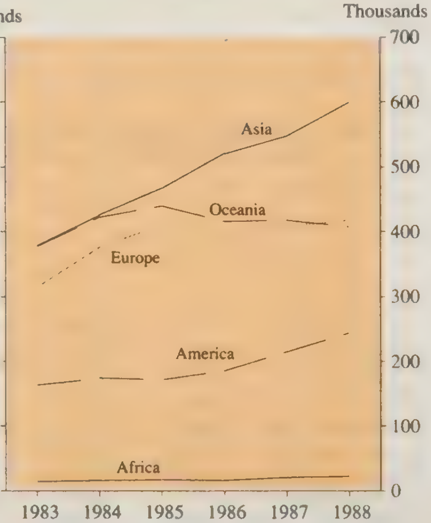
	Main purpose of journey—							
Intended length of stay	*In transit*	*Visiting relatives*	*Holiday accom-panying business traveller*	*Con-vention*	*Business*	*Employ-ment*	*Other and not stated*	*Total*
Under 1 week	88,300	23,600	271,700	8,300	83,900	1,500	17,900	495,200
1 week and under 2 weeks	200	50,700	391,400	24,600	73,900	1,600	25,400	567,800
2 weeks and under 3 weeks	200	68,100	225,200	15,800	36,100	1,000	17,000	363,400
3 weeks and under 1 month	*	56,200	101,100	3,800	9,400	500	6,900	177,800
1 month and under 2 months	*	118,500	129,100	3,100	14,800	2,100	12,100	279,500
2 months and under 3 months	*	46,100	39,700	400	4,700	1,400	6,900	99,300
3 months and under 6 months	*	45,400	42,700	200	5,200	4,200	12,700	110,300
6 months and under 9 months	*	31,600	41,500	100	3,000	5,700	15,300	97,300
9 months and under 12 months	*	6,800	13,700	100	2,400	8,400	17,500	48,900
Not definite, not stated	—	1,500	4,000	400	900	100	2,800	9,700
Total	88,700	448,500	1,260,000	56,700	234,300	26,600	134,400	2,249,300

(a) Asterisk (*) denotes that figures are subject to sampling variability too high for most practical purposes.

VISITOR ARRIVALS, SHORT TERM, BY REGION OF USUAL RESIDENCE AUSTRALIA



RESIDENT DEPARTURES, SHORT TERM, BY REGION OF INTENDED STAY AUSTRALIA



SHORT-TERM MOVEMENT: ARRIVALS OF OVERSEAS VISITORS AND DEPARTURES OF AUSTRALIAN RESIDENTS BY COUNTRY OF RESIDENCE/INTENDED STAY AND INTENDED LENGTH OF STAY, AUSTRALIA, 1988

	Arrivals of overseas visitors—intended length of stay					*Departures of Australian residents—intended length of stay*			
Country of residence (visitors) and country of intended stay (residents)	*Under 1 week*	*1 week and under 1 month*	*1 month and under 3 months*	*3 months and under 12 months*	*Total (a)*	*Under 1 month*	*1 month and under 3 months*	*3 months and under 12 months*	*Total (a)*
Africa—									
South Africa	1,100	3,200	3,600	1,400	9,400	2,100	4,700	1,400	8,300
Other	1,600	3,600	3,700	1,800	10,800	5,400	6,500	2,700	14,600
Total, Africa	*2,800*	*6,800*	*7,400*	*3,200*	*20,300*	*7,500*	*11,200*	*4,100*	*22,900*
America—									
Canada	8,200	32,200	16,500	9,500	66,700	8,000	10,600	5,100	23,700
United States	68,300	193,300	42,100	17,300	322,300	118,400	56,900	20,700	196,300
Other	2,800	7,100	3,000	2,400	15,400	9,500	10,100	4,200	23,900
Total, America	*79,300*	*232,600*	*61,600*	*29,200*	*404,400*	*136,000*	*77,500*	*30,000*	*243,900*
Asia—									
Hong Kong	8,600	29,200	7,300	4,100	49,400	81,000	16,100	7,200	104,700
India	1,600	4,200	2,500	2,400	10,700	6,800	9,000	3,300	19,300
Indonesia	6,000	14,000	5,300	4,000	29,600	120,200	9,900	3,000	133,600
Japan	154,300	175,400	9,300	11,500	352,300	22,800	4,000	3,000	30,100
Malaysia	9,700	24,600	9,500	8,000	52,100	33,300	10,100	4,800	48,400
Philippines	2,300	5,300	2,600	3,100	13,400	22,400	10,500	2,600	35,700
Singapore	15,800	35,700	7,300	3,500	63,500	81,500	8,200	3,200	93,400
Thailand	3,700	6,800	2,300	3,000	15,800	49,200	8,000	2,300	59,800
Other	16,500	26,400	10,900	19,100	73,400	34,600	23,700	16,300	74,900
Total, Asia (b)	*218,400*	*322,600*	*57,000*	*58,600*	*660,300*	*451,800*	*99,600*	*45,700*	*599,900*
Europe—									
France	4,600	8,200	5,300	2,800	21,000	4,800	8,500	3,000	16,300
Germany *(c)*	8,900	20,700	26,100	9,800	65,900	8,000	13,400	5,400	26,900
Greece	800	1,400	2,500	3,300	8,100	3,700	12,500	17,300	33,600
Ireland *(d)*	700	2,800	4,300	5,300	13,100	1,600	4,900	1,500	8,100
Italy	3,400	9,600	7,300	4,600	25,200	6,200	19,500	13,500	39,300
Netherlands	2,200	7,000	9,300	3,800	22,400	2,800	6,900	3,000	12,700
Switzerland	3,300	7,300	9,400	5,900	26,000	2,300	4,000	1,800	8,100
United Kingdom	21,900	87,700	90,800	58,900	260,300	40,500	115,500	56,300	213,400
Yugoslavia	300	700	1,700	4,000	6,800	1,300	6,700	7,900	16,000
Other	8,800	28,500	21,000	21,800	80,900	7,400	20,900	14,000	42,500
Total, Europe	*54,900*	*173,900*	*177,600*	*120,200*	*529,600*	*78,600*	*212,800*	*123,900*	*416,900*
Oceania—									
Fiji	4,000	4,600	5,800	4,800	19,300	67,500	3,700	1,700	73,200
New Caledonia	3,200	11,300	1,600	900	17,200	9,600	400	200	10,300
New Zealand	114,400	331,000	55,800	32,700	534,300	208,000	29,600	8,700	247,100
Papua New Guinea	12,400	15,800	6,600	2,700	37,800	19,300	7,500	5,800	32,700
Other	5,100	7,400	3,900	3,200	19,800	38,600	3,300	1,800	43,800
Total, Oceania	*139,100*	*370,300*	*73,600*	*44,200*	*628,200*	*343,000*	*44,600*	*18,200*	*407,100*
Other	*800*	*2,800*	*1,700*	*1,100*	*6,600*	*4,000*	*1,900*	*1,000*	*6,900*
Total	**495,300**	**1,109,000**	**378,900**	**256,500**	**2,249,300**	**1,020,800**	**447,600**	**222,800**	**1,697,600**

(a) The difference between the sum of the components and the total comprises 'not definite, not stated, etc.' *(b)* Asia includes countries which are frequently regarded as 'Middle East' countries, for example Iraq, Lebanon, Syria, etc. This inclusion is based on United Nations' classification of world regions. *(c)* Comprises the German Democratic Republic and the Federal Republic of Germany. *(d)* Includes Republic of Ireland and Ireland, undefined.

International Visitor Survey—IVS

Surveys of the travel pattern and attitudes of international visitors to Australia have been conducted on behalf of the Australian Tourist Commission for a number of years (annually between 1983 and 1986). No survey was conducted for 1987 but it was reintroduced for 1988, under the administration of the Bureau of Tourism Research.

Details contained in the survey include the arrival statistics, profile, travel patterns, itinerary, trip satisfaction and expenditure of short-term visitors to Australia (defined as foreign residents staying in Australia for a period of less than twelve months).

Domestic Travel

Information about domestic travel patterns of residents within Australia in 1987–88 was collected in the Domestic Tourism Monitor, administered by the Bureau of Tourism Research. The survey results show that the main purposes of trips were holiday or pleasure (45 per cent), visiting friends and relatives (26 per cent), and conference, seminar, business (15 per cent). The main mode of transport used was private vehicle (77 per cent). The mean length of a trip by domestic tourists was 4.6 nights in 1987–88.

The following tables contain data obtained from the survey.

SUMMARY OF PERSON TRIPS AND NIGHTS AWAY, 1987–88

State of origin	*Estimated population year ending June 1987 (a)*	*Person trips*	*Person trips per person*	*Nights away by person*	*Nights away per person*	*Nights away per person trip*
	'000	'000		'000		
New South Wales	4,442.2	15,058	3.4	69,914	15.7	4.6
Victoria	3,335.6	11,712	3.5	53,410	16.0	4.6
Queensland	2,109.7	8,899	4.2	43,711	20.7	4.9
South Australia	1,112.9	3,774	3.4	17,452	15.7	4.6
Western Australia	1,184.9	4,564	3.9	20,424	17.2	4.5
Tasmania	343.5	1,172	3.4	4,664	13.6	4.0
Northern Territory	111.4	236	2.1	2,215	19.9	9.4
Australian Capital Territory	207.4	1,310	6.3	5,107	24.6	3.9
Total	**12,847.6**	**46,725**	**3.6**	**216,897**	**16.9**	**4.6**

(a) For persons aged 15 years and over.
Source: Bureau of Tourism Research, Domestic Tourism Monitor 1987–88.

NUMBER OF NIGHTS SPENT IN STATE OF MAIN DESTINATION BY MAIN PURPOSE OF TRIP, 1987–88 ('000 nights)

	Main purpose of trip				
State of main destination	*All business*	*Pleasure/ Holiday*	*Visiting friends/ relatives*	*Other*	*Total*
New South Wales	7,814	38,444	17,455	8,590	72,303
Victoria	4,610	20,345	9,592	4,499	39,046
Queensland	5,587	32,254	10,767	7,063	55,671
South Australia	2,352	7,604	3,458	2,023	15,437
Western Australia	3,313	10,108	4,399	3,308	21,128
Tasmania	627	2,920	1,163	725	5,435
Northern Territory	923	2,098	747	591	4,359
Australian Capital Territory	690	1,266	1,046	484	3,486
Not stated	0	32	0	0	32
Total	**25,916**	**115,071**	**48,627**	**27,283**	**216,897**

Source: Bureau of Tourism Research, Domestic Tourism Monitor 1987–88

Tourism

Over the last twenty-five years, world tourist arrivals have increased four-fold and tourism is expected to become the world's number one export industry by the year 2000.

While growth in overseas visitors to Australia over the last five years has averaged over three times the international growth rate, Australia's share of world tourism is still small, accounting for only 0.58 per cent of total international arrivals.

This suggests that for Australia, tourism is an industry with considerable potential for future growth. It is an industry for the 21st century, capable of playing a key role in the process of structural adjustment currently taking place within the economy. It is a labour intensive industry, providing job opportunities across a range of skill levels. It is also a non-smoke stack, low pollutant industry which, if properly managed, can contribute to the enhancement of the environment and the protection of our heritage. The industry's growth is favourably influenced by:

- our reputation as a politically safe and stable destination relatively free from crime, political unrest and international terrorism;
- our unique natural attractions and cultural heritage, the industry's diverse produce range and a growing sophistication in commercial developments which has enhanced our competitiveness;
- our close proximity to the rapidly expanding and increasingly affluent Japanese and Asian markets;
- our increasing appeal to European long-haul markets with the advent of more efficient and less costly transportation;
- the multicultural nature of Australian society and its capacity to lure visitors world-wide;
- an increasing ageing and affluent local population with greater propensity to travel; and
- increased opportunities for leisure world-wide through the introduction of early retirement schemes, reduced and more flexible working hours, longer holidays and the effects of increased productivity through technological innovations.

As a way of heightening awareness of the Australian tourism product and to encourage excellence in the industry, the Government inaugurated an annual series of National Tourism Awards in September 1984. Responsibility for the organisation and administration of the Tourism Awards was handed over to the Australian Tourism Industry Association in 1989.

A summary of the allocation of tourism responsibilities within the public sector is provided in the 1989 *Year Book Australia*.

Economic and social importance

Tourism is one of Australia's most rapidly expanding and important industries. Its growth has generated increased employment opportunities, encouraged substantial private investment and enhanced the nation's balance of payments position.

It is estimated that tourism contributed 6 per cent to the Gross Domestic Product in 1988–89 and accounted for some 450,000 jobs (or 6 per cent of the workforce). Total expenditure derived from tourism was around $23 billion.

Growth in inbound tourism has been particularly strong. In 1988 overseas visitor arrivals increased by 25 per cent for the third year in succession to reach a record 2.25 million. This is more than double the number of overseas visitors in 1984.

Australia recorded a 30 per cent real increase in international tourist receipts in 1988, the greatest increase of any OECD country. In 1988–89, international tourism to Australia surpassed wool as the nation's number one export earner, generating foreign exchange earnings of $6.5 billion.

Growth in inbound tourism has coincided with a steady growth in domestic tourism in recent years averaging around 3 per cent per annum. In 1987–88, Australian residents aged 14 and over undertook 46.7 million trips of at least one night's duration and spent 217 million nights away from home while in Australia.

Investment in the industry has flourished and tourism has been a major inducement to the inflow of foreign capital. Over the three years to June 1989, the value of major tourism projects under construction or firmly committed has tripled to around $19.6 billion.

Australian Tourist Commission

The Australian Tourist Commission (ATC) was established in 1967. Following a wide ranging review, the ATC was restructured in 1987 and a new Act, the *Australian Tourist Commission Act 1987*, was passed by Parliament. The ATC is a statutory authority. Its role is to increase the number of visitors to Australia, to maximise the benefits to Australia from overseas and to ensure that Australia is protected from adverse environmental and social impacts of international tourism. The ATC had a staff of 114 world wide, with 11 in key overseas markets and its head office in Sydney. The ATC's Budget allocation was $38.2 million in 1988–89.

The Commission engages in a wide variety of marketing activities including consumer and trade advertising, industry seminars and familiarisation visits for travel agents, journalists and photographers, and market research. These activities are carried out in cooperation with the States and the Australian and overseas travel industries. Advertising designed to promote Australia as a friendly, exciting but safe tourist destination, provides a marketing umbrella for States, Territories and industry, and is placed in various tourist source markets at times selected to gain maximum awareness of Australia as a travel destination. Overseas offices of the ATC are located in London, Frankfurt, Los Angeles, New York, Chicago, Toronto, Singapore, Tokyo, Osaka, Hong Kong and Auckland.

Vocational training

The Commonwealth Government has accorded higher priority to the issue of training within the tourism and hospitality industry in recent years. A number of major reports have been prepared and a major National Conference on Training for the Hospitality Sector was held in March 1989. Action to implement recommendations from the reports and conference is largely completed. A labour force survey has been undertaken by BTR to quantify the future needs of the industry for trained personnel and significant funding is being provided to expand capacity in TAFE and other educational establishments. Industry is also being encouraged to commit more resources to training.

Tourism shopping

In November 1987 a Committee of Inquiry into Tourism Shopping was established under the chairmanship of Mr Bevan Bradbury AO. It reported to the Minister in September 1988.

The Report estimated that $2 billion (in 1988 values) could be spent by overseas visitors alone by the year 2000, with the number of persons employed in the wholesale/retail industry to service this market expected to double to 25,000. The Report took into account the results of a survey of visitor satisfaction and expenditure related to tourism shopping, undertaken by the Bureau of Tourism Research. The survey was conducted by adding a number of additional questions to the International Visitors Survey for 8 weeks from 19 March to 13 May 1988. The Report presented a range of recommendations to improve the availability and quality of goods and services. The single most important issue identified by the Committee was that Australia lacks the image of a tourism shopping destination and needs to develop one as an attraction to overseas tourists. The principal areas for attention which emerged most clearly were the need for education and training, promotion, improved access, better research and the manufacture and supply of higher quality, uniquely Australian goods.

The Report also recommended that an implementation committee be established to oversee the implementation of the Committee's recommendations. The formation of the Tourism Shopping Implementation Committee was announced by the Minister on 22 March 1989. The Department is providing the secretariat for the Implementation Committee, which is required to report to the Minister by the end of 1989.

Tourist accommodation

Services industries surveys

Data relating to accommodation enterprises have been collected as part of the 1986–87 surveys. Results were published in *Hotels and Accommodation—Details of Operations, Australia* (8656.0). *See* also Chapter 18 for details of hotels and accommodation and other related service industries.

Surveys of tourist accommodation establishments

Quarterly accommodation surveys were commenced in the September quarter 1975 and data published from these surveys include room occupancy and takings from accommodation.

The main purpose of the surveys of tourist accommodation establishments is to measure the utilisation of available tourist accommodation. For detailed statistics from the survey *see Tourist Accommodation, Australia* (8635.0).

TOURIST ACCOMMODATION (a)

		June quarter 1988	*September quarter 1988*	*December quarter 1988*	*March quarter 1989*	*June quarter 1989*
LICENSED HOTELS WITH FACILITIES *(b)*						
Establishments	Number	1,116	1,126	1,169	1,159	1,164
Guest rooms	"	45,183	46,860	48,037	48,177	50,583
Bed spaces	"	116,034	121,130	125,282	125,502	131,836
Room occupancy rates	%	54.0	58.9	56.4	53.2	49.6
Bed occupancy rates	%	33.0	36.8	34.7	33.6	29.1
Gross takings from accommodation	$'000	208,021	244,164	252,222	230,718	226,198
MOTELS, ETC *(b)*						
Establishments	Number	3,239	3,264	3,408	3,400	3,438
Guest rooms	"	86,327	87,381	91,282	91,138	92,079
Bed spaces	"	262,959	266,099	278,039	277,160	280,648
Room occupancy rates	%	56.0	62.2	56.3	56.5	52.3
Bed occupancy rates	%	33.8	39.2	34.3	35.9	30.6
Gross takings from accommodation	$'000	245,008	292,676	277,084	275,516	260,519
TOTAL HOTELS AND MOTELS ETC. *(b)*						
Establishments	Number	4,355	4,390	4,577	4,559	4,602
Guest rooms	"	131,510	134,241	139,319	139,315	142,662
Bed spaces	"	378,993	337,229	403,321	402,662	412,484
Room occupancy rates	%	55.3	61.0	56.3	55.4	51.4
Bed occupancy rates	%	33.5	38.5	34.4	35.2	30.1
Gross takings from accommodation	$'000	453,029	536,840	529,306	506,234	486,717

For footnotes *see* end of table.

TOURIST ACCOMMODATION (a)—*continued*

		June quarter 1988	*September quarter 1988*	*December quarter 1988*	*March quarter 1989*	*June quarter 1989*
CARAVAN PARKS *(c)*						
Establishments	Number	2,652	2,640	2,660	2,659	2,656
Powered sites	"	199,853	199,909	200,933	201,736	201,611
Unpowered sites	"	71,955	71,122	71,106	71,010	70,616
Cabins, flats etc.	"	7,882	8,079	8,539	8,839	9,049
Total capacity	"	279,690	279,110	280,578	281,585	281,276
Site occupancy rates	%	31.4	34.4	33.8	40.1	32.9
Gross takings from accommodation	$'000	65,876	74,523	77,220	91,441	69,578
HOLIDAY FLATS, UNITS AND HOUSES *(b)*						
Letting entities	Number	1,303	1,328	1,351	1,328	1,333
Flats, units etc.						
One bedroom	"	6,693	6,844	7,180	7,236	7,184
Multiple bedroom	"	22,840	23,844	24,358	24,015	23,828
Total flats units etc.	*"*	*29,533*	*30,689*	*31,538*	*31,251*	*31,012*
Bed spaces	"	124,484	128,790	133,799	131,816	131,215
Unit occupancy rates	%	48.6	63.7	55.7	59.9	44.0
Gross takings from accommodation	$'000	56,649	84,959	76,616	85,811	56,480

(a) For the purpose of this survey, a tourist accommodation establishment is defined as an establishment which predominantly provides short-term accommodation (i.e. for periods of less than two months) available to the general public. *(b)* For definitions *see Tourist Accommodation, Australia* (8635.0). *(c)* Includes long-term caravan parks. For definitions *see Tourist Accommodation, Australia* (8635.0)

Domestic tourism monitor

The 1987–88 Domestic Tourism Monitor, which covers travel by Australians, indicated that the most frequently used accommodation was the home of friends or relatives (44 per cent of visitor nights), followed by hotels or motels (17 per cent) and caravan parks or camping grounds (17 per cent). The following table classifies the types of accommodation used for all visitor nights by the main purpose of the trip.

NUMBER OF VISITOR NIGHTS IN ALL ACCOMMODATION, BY MAIN PURPOSE OF TRIP, 1987–88
('000 visitor nights)

	Main purpose of trip				
All accommodation used	*All business*	*Pleasure/ holiday*	*Visiting friends/ relatives*	*Other*	*Total*
Hotel/motel with facilities	10,065	18,353	2,135	3,049	33,602
Hotel/motel without facilities	889	1,267	265	338	2,758
Friends'/relatives' house	4,311	37,861	42,129	10,526	94,827
Caravan/tent/cabin/camping	2,407	28,959	1,329	3,495	36,189
Rented house/flat	1,622	12,139	587	1,429	15,777
Own holiday home/flat	635	8,004	504	961	10,103
Guest house/private hotel	509	2,444	468	393	3,813
Farm	881	1,072	637	831	3,421
Boat/cabin cruiser	122	1,115	1	450	1,688
Hostel	592	471	75	1,107	2,244
Other/not stated	3,884	3,388	497	4,706	12,475
Total	**25,916**	**115,071**	**48,629**	**27,281**	**216,897**

Source: Bureau of Tourism Research, Domestic Tourism Monitor, 1987–88

Tourist attractions

As part of the 1986–87 Services Industries surveys, data were collected from selected tourist attractions in each State and Territory. The following table gives a brief summary. Further details of type of attraction (e.g. museums and art galleries, amusement and theme parks, zoos, wineries, mines and factories, natural attractions, historic attractions) are given in *Tourist Attractions* (8661.0)

TOURIST ATTRACTIONS: SUMMARY OF OPERATIONS, 1986–87

State	*Number of attractions*		*Number of visitors(a)*	*Persons employed*	*Income from admission charged*	*Expenses*	*Net capital expenditure*
	Admission charged	*Admission not charged*					
	no.	no.	'000	no.	$'000	$'000	$'000
New South Wales	233	224	20,372	5,541	47,400	192,803	37,510
Victoria	214	131	15,893	3,265	29,854	106,287	22,429
Queensland	220	91	15,930	3,194	80,779	128,960	29,935
South Australia	135	220	9,618	1,342	6,974	44,595	3,352
Western Australia	144	118	10,939	1,259	13,265	42,441	11,061
Tasmania	78	33	2,191	507	6,279	14,441	1,738
Northern Territory	16	15	1,471	330	5,143	14,070	6,914
Australian Capital Territory	12	15	3,961	724	1,694	26,054	4,920

(a) Excludes visitors to national parks. Persons visiting more than one attraction counted for each.

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13

AGRICULTURAL INDUSTRIES

This chapter is divided into the following major parts: Introduction; Sources of statistics and definitions of units; Structural statistics (provides data on the legal arrangements, size and industry class of the business organisations operating within the agricultural sector); Value of agricultural commodities produced and index of values at constant prices; Apparent consumption of foodstuffs and nutrients; Land tenure and utilisation; Crop statistics; Livestock statistics; Livestock products; Agricultural improvements, employment, regulation of agricultural industries, and the agricultural research activities of the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Introduction

The development of Australian agricultural industries has been determined by interacting factors such as profitable markets, the opening up of new land (including the development of transport facilities) and technical and scientific achievements. Subsistence farming, recurring gluts, low prices and losses to farmers were gradually overcome by the development of an export trade. Profitable overseas markets for merino wool and wheat, and the introduction of storage and refrigerated shipping for the dairying and meat industry, combined to make the agricultural sector Australia's main export earner. Until the late 1950s, agricultural products comprised more than 80 per cent of the value of Australia's exports. Since then, the proportion of Australia's exports from the agricultural sector has declined markedly.

However, this decline in importance has been due not to a decline in agricultural activity but rather to an increase in the quantity and values of the exports of the mining and manufacturing sectors. In fact, the agricultural sector experienced an increase in total output over that period. One interesting aspect of this increase in output is that it was accompanied by a large reduction in the size of the agricultural labour force, implying a large growth in productivity within the sector.

Sources of statistics and definitions of units

The major source of the statistics in this chapter is the Agricultural Census conducted at 31 March each year. A wide range of information is collected from agricultural establishments with agricultural activity covering the physical aspects of agriculture such as area and production of crops, fertilisers used, number of livestock disposed of, etc. In conjunction with the Census, certain supplementary collections are conducted in some States where this has proved expedient, e.g. where the harvesting of certain crops has not been completed by 31 March (apples, potatoes, etc.), special returns covering the crops concerned are collected after the completion of the harvest.

The ABS excludes from the Census those establishments which make only a small contribution to overall agricultural production. Since 1986–1987, the Census includes establishments with agricultural activity which had, or were expected to have, an estimated value of agricultural operations of $20,000 or more. Prior to this (1982–83 to 1985–86) the cut-off value was $2,500.

While these alterations have resulted in some changes in the counts of numbers of establishments appearing in publications, the effect on the statistics of production of major commodities is small. Statistics of minor commodities normally associated with small scale operations may be affected to a greater extent.

Details of the method used in the calculation of the estimated value of agricultural operations are contained in the publication *Agricultural Industries: Structure of Operating Units, Australia* (7102.0).

Integrated Register Information System—IRIS

Details of agricultural units for 1986–87 have been derived from IRIS. Details of the structure of economic units engaged in agriculture, in hierarchical order, are:

- **Enterprise** (the second level of economic unit). The enterprise is that unit comprising all operations in Australia of a single operating legal entity. (The term 'single legal entity' means a sole trader, partnership, company, trust, cooperative or estate in the private sector, or a department, local government authority or statutory authority in the government sector). For the agricultural sector, a 'multi-State enterprise' is an enterprise which belongs to an enterprise group which undertakes agricultural activities in more than one State.
- **Establishment** (the smallest economic unit). The establishment covers all operations carried out by one enterprise at a single physical location.

Other statistical collections

The ABS conducts a number of other collections to obtain agricultural statistics. These include collections from wool brokers and dealers, livestock slaughterers and other organisations involved in the marketing and selling of agricultural commodities.

For financial statistics from the Agricultural Finance Survey, conducted for 1986–87, *see Agricultural Industries Financial Statistics, Australia, 1986–87, Preliminary* (7508.0).

Structural Statistics

The following tables provide information relating to the structure of operating units during 1987–88. Although the definitions of the operating units have been provided above, the following terminology is also used:

- **Industry**. As set out in the *Australian Standard Industrial Classification (ASIC)* (1201.0 and 1202.0). These publications provide details of the methodology used in determining the industry class of an economic unit.
- **Estimated Value of Agricultural Operations (EVAO).** This is determined by valuing the physical crop and livestock information collected in the Agricultural Census.

A further explanation of this terminology and more detailed statistics are given in the publication *Agricultural Industries: Structure of Operating Units, Australia* (7102.0).

ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, INDUSTRY AND ESTIMATED VALUE OF AGRICULTURAL OPERATIONS AUSTRALIA, 31 MARCH 1988

Industry of establishment		Estimated value of agricultural operations ($'000)											
ASIC Code	Description	Less than 20	20–29	30–39	40–49	50–59	60–74	75–99	100–149	150–199	200–499	500 or more	Total establish-ments
0124	Poultry for meat	17	16	21	25	26	49	108	165	95	112	75	709
0125	Poultry for eggs	27	22	16	15	19	32	43	100	78	235	159	746
0134	Grapes	223	321	387	444	385	447	531	392	122	114	22	3,388
0135	Plantation fruit	170	187	189	172	134	142	180	229	114	117	36	1,670
0136	Orchard and other fruit	548	462	466	489	406	503	509	718	361	562	176	5,200
0143	Potatoes	28	39	56	81	86	113	160	249	173	351	71	1,407
0144	Vegetables (except potatoes)	316	301	274	223	212	214	293	413	274	602	244	3,366
0181	Cereal grains (incl. oilseeds n.e.c.)	416	477	471	434	455	672	1,050	1,419	902	1,670	305	8,271
0182	Sheep—cereal grains	181	515	820	1,009	1,113	1,854	3,153	4,948	3,073	4,859	596	22,121
0183	Meat cattle—cereal grains	179	200	279	248	200	261	386	417	226	340	57	2,793
0184	Sheep—meat cattle	244	516	749	732	646	855	1,080	1,318	724	1,100	218	8,182
0185	Sheep	758	1,220	1,782	1,819	1,688	2,230	3,095	3,939	2,179	3,114	422	22,246
0186	Meat cattle	2,423	3,023	2,425	1,632	1,155	1,258	1,361	1,391	751	1,088	350	16,857
0187	Milk cattle	197	511	876	1,215	1,577	2,656	3,620	3,151	1,028	648	40	15,519
0188	Pigs	84	97	126	141	108	161	234	338	205	345	118	1,957
0191	Sugar cane	41	121	270	424	571	849	1,039	1,096	496	461	25	5,393
0192	Peanuts	10	19	27	32	28	29	61	66	33	34	6	345
0193	Tobacco	1	5	4	13	16	42	89	218	72	66	3	529
0194	Cotton	2	—	2	4	5	10	14	32	36	220	302	627
0195	Nurseries	687	80	150	99	77	184	121	241	115	244	111	2,109
0196	Agriculture n.e.c.	626	453	427	318	241	260	236	233	116	167	31	3,108
	Total (ASIC code 01)	*7,178*	*8,585*	*9,817*	*9,569*	*9,148*	*12,821*	*17,363*	*21,073*	*11,173*	*16,449*	*3,367*	*126,543*
02	Services to agriculture	3	11	15	9	5	8	8	6	5	3	—	73
03	Forestry and logging	2	3	4	3	1	1	3	2	1	—	1	21
04	Fishing and hunting	—	1	1	2	1	1	1	1	—	—	—	8
	Total (ASIC Division A)	*7,183*	*8,600*	*9,837*	*9,583*	*9,155*	*12,831*	*17,375*	*21,082*	*11,179*	*16,452*	*3,368*	*126,645*
B	Mining	1	2	—	1	—	—	—	2	2	1	—	9
C	Manufacturing	12	17	19	13	11	11	12	11	9	9	13	137
D	Electricity, Gas and Water	—	—	—	—	—	1	—	—	—	1	—	2
E	Construction	10	20	11	11	5	6	7	7	5	2	—	84
F	Wholesale and Retail Trade	34	15	9	8	8	8	15	12	5	11	5	130
G	Transport and Storage	17	28	15	16	11	18	9	9	3	3	1	130
H	Communication	—	—	—	—	—	—	—	—	—	—	—	—
I	Finance, Property and Business Services	9	5	1	3	3	2	2	2	1	1	2	31
J	Public Administration and Defence	1	—	—	1	—	—	1	—	—	—	—	3
K	Community Services	7	5	12	3	9	8	17	18	19	31	7	136
L	Recreation, Personal and Other Services	8	4	5	2	1	3	2	5	—	1	—	31
	Total, all industries	**7,282**	**8,696**	**9,909**	**9,641**	**9,203**	**12,888**	**17,440**	**21,148**	**11,223**	**16,512**	**3,396**	**127,338**

NUMBER OF UNITS BY TYPE OF UNIT

Year/unit	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
31 March 1986—									
Agricultural establishments*(a)*	51,728	43,931	33,745	18,739	16,004	5,199	267	103	169,716
Establishments with agricultural activity*(a)*	52,042	44,317	33,936	18,971	16,258	5,283	269	104	171,180
31 March 1987—									
Agricultural establishments*(a)*	36,955	33,808	25,531	14,983	13,536	3,543	283	68	128,707
Establishments with agricultural activity*(a)*	37,131	33,987	25,676	15,084	13,692	3,615	285	68	129,538
31 March 1988—									
Agricultural establishments*(a)*	37,532	32,362	25,111	14,540	13,226	3,434	272	66	126,543
Establishments with agricultural activity*(a)*	37,698	32,532	25,254	14,647	13,367	3,499	274	67	127,338

(a) Statistics for the year ended 31 March 1986 are not directly comparable with statistics for subsequent periods due to change in census EVAO cut-off levels.

AGRICULTURAL ESTABLISHMENTS (a) INDUSTRY, 1987–88

Industry of establishment										
ASIC Code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Australia*
0124	Poultry for meat	371	123	96	59	47	13	—	—	709
0125	Poultry for eggs	265	155	146	63	93	19	4	1	746
0134	Grapes	644	1,580	50	998	110	4	2	—	3,388
0135	Plantation fruit	771	—	761	—	131	—	7	—	1,670
0136	Orchard and other fruit	1,609	964	827	1,173	417	204	5	1	5,200
0143	Potatoes	166	521	230	99	150	241	—	—	1,407
0144	Vegetables (except potatoes)	634	578	1,027	476	420	202	27	2	3,366
0181	Cereal grains (incl. oilseeds n.e.c)	2,008	1,999	2,017	1,580	645	9	13	—	8,271
0182	Sheep — cereal grains	7,724	4,023	289	4,837	5,224	24	—	—	22,121
0183	Meat cattle — cereal grains	1,062	185	1,457	60	23	2	4	—	2,793
0184	Sheep — meat cattle	3,439	2,374	672	717	588	376	—	16	8,182
0185	Sheep	8,071	6,244	1,457	2,343	3,252	851	—	28	22,246
0186	Meat cattle	4,676	3,761	6,464	344	940	481	176	15	16,857
0187	Milk cattle	2,594	8,371	2,158	1,032	553	806	4	1	15,519
0188	Pigs	608	289	570	271	153	65	1	—	1,957
0191	Sugar cane	438	—	4,955	—	—	—	—	—	5,393
0192	Peanuts	3	—	338	—	4	—	—	—	345
0193	Tobacco	22	181	326	—	—	—	—	—	529
0194	Cotton	356	—	271	—	—	—	—	—	627
0195	Nurseries	927	365	341	193	229	34	19	1	2,109
0196	Agriculture n.e.c	1,144	649	659	295	247	103	10	1	3,108
	Total (ASIC code 01)	*37,532*	*32,362*	*25,111*	*14,540*	*13,226*	*3,434*	*272*	*66*	*126,543*
02	Services to agriculture	5	18	18	9	21	2	—	—	73
03	Forestry and logging	5	1	7	—	1	7	—	—	21
04	Fishing and hunting	—	—	—	—	4	4	—	—	8
	Total (ASIC Division A)	*37,542*	*32,381*	*25,136*	*14,549*	*13,252*	*3,447*	*272*	*66*	*126,645*
B	Mining	3	2	1	1	2	—	—	—	9
C	Manufacturing	21	27	11	37	36	4	—	1	137
D	Electricity, Gas and Water	—	2	—	—	—	—	—	—	2
E	Construction	13	35	6	9	13	8	—	—	84
F	Wholesale and Retail Trade	48	22	20	11	11	17	1	—	130
G	Transport and Storage	28	36	15	17	20	14	—	—	130
H	Communication	—	—	—	—	—	—	—	—	—
I	Finance, Property and Business Services	6	5	7	8	3	1	1	—	31
J	Public Administration and Defence	2	—	—	1	—	—	—	—	3
K	Community Services	27	11	55	11	25	7	—	—	136
L	Recreation, Personal and Other Services	8	11	3	3	5	1	—	—	31
	Total, all industries	**37,698**	**32,532**	**25,254**	**14,647**	**13,367**	**3,499**	**274**	**67**	**127,338**

Value of Agricultural Commodities Produced and Index of Values at Constant Prices

Definitions

Gross value of commodities produced: the value placed on recorded production at the wholesale prices realised in the market place.

Marketing costs: include freight, cost of containers, commission and other charges incurred in marketing.

Local value of commodities produced: the value placed on commodities at the place of production as is ascertained by deducting marketing costs from the gross value.

Index of values at constant prices: the index of the gross value of commodities produced at constant prices, i.e. it is a measure of change in value after the direct effects of price changes have been eliminated.

VALUES OF AGRICULTURAL COMMODITIES, 1987–88

	Gross value of agricultural commodities produced	*Marketing costs*	*Local value of commodities produced*	*Index of values at constant prices of agricultural commodities produced (a) (Base year: 1984–85 = 1,000*
	$m	$m	$m	
Crops	7,812.0	1,102.5	6,709.5	862
Livestock slaughterings and other disposals	5,074.3	377.6	4,696.7	1,171
Livestock products	7,256.2	265.9	6,990.3	1,078
Total agriculture	**20,151.8**	**1,745.9**	**18,405.9**	**991**

(a) Weighted by averages unit values for the year 1979–80.

Publications

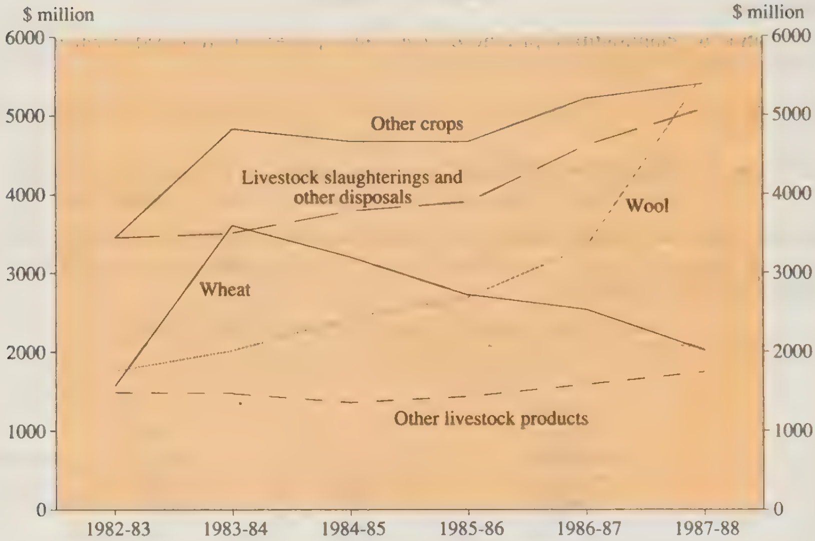
Two preliminary estimates of value of commodities produced are published: *Value of Principal Agricultural Commodities Produced, Australia, Preliminary* (7501.0) and *Value of Selected Agricultural Commodities Produced, Australia, Preliminary* (7502.0). A final publication, *Value of Agricultural Commodities Produced, Australia* (7503.0), contains Indexes of Values at Constant Prices.

Index of Agricultural Commodities Produced

The index is consistent in scope with those of previous years. The indexes are weighted by the average unit values for the year 1984–85 with a reference base of 1984–85=1,000.

For further details on how these and earlier series were calculated *see Year Book* No. 61, and *Value of Agricultural Commodities Produced, Australia* (7503.0).

GROSS VALUE OF SELECTED AGRICULTURAL COMMODITIES
1981-82 TO 1987-88



GROSS VALUE OF AGRICULTURAL COMMODITIES PRODUCED
($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Crops—						
Barley for grain	290.8	732.6	759.3	586.8	432.6	459.8
Oats for grain	116.1	203.8	129.6	138.3	164.8	195.0
Wheat for grain	1,566.2	3,605.6	3,202.9	2,719.4	2,530.0	2,015.7
Other cereal grains	260.4	408.7	400.8	346.3	322.4	402.3
Sugar cane cut for crushing	508.9	516.6	512.2	494.2	586.4	618.2
Fruit and nuts	498.0	552.5	670.9	678.6	837.2	886.0
Grapes	212.5	217.0	259.4	270.0	272.2	353.7
Vegetables	556.9	738.6	628.8	713.6	885.4	952.9
All other crops *(a)*	1,000.5	1,451.1	1,303.5	1,430.5	1,706.7	1,528.9
Total crops	*5,010.3*	*8,426.5*	*7,867.4*	*7,377.7*	*7,737.7*	*7,412.5*
Livestock slaughterings and other disposals *(b)*—						
Cattle and calves *(c)*	2,076.2	2,118.0	2,253.2	2,367.3	2,819.7	3,057.0
Sheep and lambs	548.0	585.0	576.1	531.6	721.2	803.9
Pigs	414.9	375.5	438.1	438.3	468.5	536.1
Poultry	413.1	430.2	512.6	559.1	601.7	671.2
Total livestock slaughterings and other disposals (e)	*3,452.2*	*3,508.6*	*3,783.3*	*3,896.4*	*4,611.0*	*5,074.3*
Livestock products—						
Wool	1,760.9	2,016.1	2,434.4	2,693.4	3,333.6	5,516.6
Milk	1,186.5	1,153.2	1,035.4	1,106.7	1,257.4	1,390.9
Eggs	275.3	295.2	291.2	297.7	291.6	304.4
Total livestock products (d)	*3,245.8*	*3,489.8*	*3,792.8*	*4,125.3*	*4,915.6*	*7,256.2*
Total value of agricultural commodities produced	**11,708.3**	**15,424.9**	**15,443.5**	**15,406.0**	**17,272.5**	**20,151.8**

(a) Includes pastures and grasses cut for hay and harvested for seed. Excludes crops for green feed or silage. *(b)* Includes net exports of livestock. *(c)* Includes dairy cattle slaughtered. *(d)* Includes honey and beeswax. *(e)* Includes goats.

INDEX OF VALUES AT CONSTANT PRICES OF AGRICULTURAL COMMODITIES PRODUCED (a)

(Base year: 1984–85 = 1,000)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Crops—							
Barley for grain	621	349	880	1,000	876	645	625
Oats for grain	1,148	604	1,630	1,000	943	1,171	1,275
Wheat for grain	873	469	1,179	1,000	865	880	652
Other cereal grains	952	662	1,107	1,000	974	924	970
Sugar cane *(b)*	995	1,021	917	1,000	987	967	978
Fruit and nuts	887	913	872	1,000	1,007	1,099	1,153
Grapes	929	885	927	1,000	1,018	936	921
Vegetables	836	819	865	1,000	988	1,046	1,172
All other crops *(c)*	705	586	884	1,000	1,019	1,056	1,087
Total	*837*	*604*	*1,028*	*1,000*	*933*	*933*	*862*
Livestock slaughterings and other disposals—							
Cattle and calves *(d)*	1,201	1,178	1,026	1,000	1,057	1,138	1,202
Sheep and lambs	940	1,013	949	1,000	1,065	1,107	1,077
Pigs	875	917	973	1,000	1,041	1,086	1,140
Poultry	809	907	863	1,000	1,062	1,112	1,167
Total (e)	*1,070*	*1,086*	*986*	*1,000*	*1,057*	*1,124*	*1,171*
Livestock products—							
Wool	866	850	877	1,000	1,002	1,070	1,109
Milk	862	912	981	1,000	996	1,019	1,015
Eggs	1,050	1,089	1,060	1,000	1,010	1,022	1,051
Total (f)	*879*	*885*	*920*	*1,000*	*1,000*	*1,052*	*1,078*
Total agricultural commodities produced	**905**	**791**	**991**	**1,000**	**980**	**1,009**	**991**

(a) Indexes of values at constant prices (weighted by average unit values of the year 1979–80). *(b)* Sugar cane cut for crushing and planting. *(c)* Includes pasture and grasses. Excludes crops for green feed or silage. *(d)* Includes dairy cattle slaughtered. *(e)* Component series based on carcass weight. *(f)* Includes honey and beeswax.

Apparent Consumption of Foodstuffs and Nutrients

Estimates of consumption in Australia are compiled by deducting net exports from the sum of production and imports and allowing for recorded movement in stocks of the respective commodities. The term 'consumption' is used in a specialised sense, since the quantities actually measured are broadly the quantities available for consumption at a particular level of distribution, i.e. ex-market, ex-store or ex-factory depending on the method of marketing and/or processing. Because consumption of foodstuffs is measured, in general, at 'producer' level no allowance is made for wastage before they are consumed. The effect of ignoring wastage is ultimately to overstate consumption but it is believed that more efficient distribution and storage methods in recent years have cut down wastage. Furthermore, it is likely that many of the foodstuffs are being supplemented by householders' self-supplies over and above the broad estimate already made.

The estimates of consumption per capita have been obtained by using the mean resident population for the period.

More detailed information on the consumption of foodstuffs is contained in the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0). For some commodities, more timely information is contained in the publication *Apparent Consumption of Selected Foodstuffs, Australia, Preliminary* (4315.0).

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS
(Kg—unless otherwise indicated)

Commodity	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Meat and meat products—						
Meat (carcass equivalent weight)						
Beef	47.3	42.4	39.9	40.0	39.3	37.5
Veal	2.6	3.5	2.4	2.1	2.1	1.9
Beef and veal	*49.8*	*45.9*	*42.3*	*42.1*	*41.4*	*39.4*
Lamb	16.3	16.2	16.9	17.0	16.9	15.0
Mutton	3.5	4.5	5.2	6.6	7.1	7.4
Pigmeat *(a)*	15.1	15.3	16.4	16.4	17.0	16.8
Total	*84.7*	*81.7*	*80.9*	*82.9*	*82.3*	*78.5*
Offal and meat, n.e.i.	4.4	4.4	3.4	2.8	2.7	3.4
Total meat and meat products	**89.1**	**86.1**	**84.3**	**85.0**	**85.0**	**82.0**
Poultry—						
Poultry (dressed weight)	19.6	20.3	20.0	21.8	23.0	23.5
Seafood—						
Fresh and frozen (edible weight)—						
Fish—						
Australian	1.6	1.2	1.7	1.8	2.2	2.3
Imported	1.1	1.5	1.8	1.9	1.8	1.8
Crustacea and molluscs	1.0	1.1	0.8	0.9	0.7	0.8
Seafood otherwise prepared (product weight)—						
Australian	0.4	0.6	0.6	0.4	0.5	0.5
Imported						
Fish	1.9	1.5	2.0	1.9	1.8	1.7
Crustacea and molluscs	0.5	0.4	0.4	0.5	0.5	0.5
Total seafood	**6.5**	**6.3**	**7.3**	**7.4**	**7.5**	**7.6**
Milk and milk products—						
Market milk (fluid whole)(litres)	103.1	102.9	101.6	101.8	102.5	102.9
Condensed, concentrated and evaporated milk—						
Full cream sweetened	0.6	0.9	0.7	0.7	2.8	2.5
Full cream unsweetened	2.4	1.8	2.2	2.0		
Skim	1.2	0.8	0.9	1.2	0.9	1.0
Powdered milk—						
Full cream	0.9	0.8	0.7	0.7	0.6	0.9
Skim	2.8	2.7	2.3	2.3	2.3	2.7
Infants' and invalids' food	1.3	1.2	1.2	1.0	1.2	1.0
Cheese (natural equivalent weight)	7.0	7.4	7.7	8.1	8.0	8.1
Total (converted to milk solids, fat and non-fat)	**23.0**	**22.7**	**22.5**	**22.7**	**22.6**	**24.1**
Fruit and fruit products—						
Fresh fruit (incl. fruit for fruit juice)—						
Citrus	36.4	47.9	51.2	45.3	40.8	40.6
Other	37.8	39.6	38.1	41.4	42.1	45.3
Jams, conserves, etc	1.8	1.8	1.8	2.1	1.9	1.9
Dried fruit	2.3	2.5	2.4	3.0	2.9	2.3
Processed fruit	10.3	9.4	9.8	11.1	8.0	7.7
Total (fresh fruit equivalent)	**97.4**	**110.6**	**113.3**	**114.6**	**106.9**	**106.4**
Vegetables—						
White potatoes	57.6	52.2	62.6	59.9	57.7	60.6
Other root and bulb vegetables	18.7	16.9	17.4	19.3	18.9	18.9
Tomatoes	16.7	16.5	18.6	19.6	16.9	18.0
Leafy and green vegetables	20.8	21.4	21.9	22.5	22.8	21.8
Other vegetables	17.1	17.9	18.3	21.0	20.0	19.9
Total (fresh equivalent weight)	**130.8**	**124.9**	**138.8**	**142.4**	**136.2**	**139.3**
Grain products—						
Flour *(b)*	72.0	67.1	73.1	72.6	71.8	72.0
Breakfast foods—						
Oatmeal and rolled oats	0.9	1.2	1.3	1.3	1.5	1.6
Other (from grain)	7.1	7.6	7.9	8.2	n.a.	8.1
Total breakfast foods	*8.0*	*8.7*	*9.2*	*9.6*	*n.a.*	*9.7*
Table rice	2.9	3.0	3.3	3.7	3.7	3.7
Total grain products	**82.9**	**78.8**	**85.6**	**85.8**	**n.a.**	**85.4**
Bread	47.5	49.3	45.6	45.4	n.a.	n.a.
Eggs and egg products—						
Equivalent number of eggs *(c)*	222	141	145	143	140	138
Nuts (in shell)—						
Peanuts	1.5	2.1	1.8	1.4	1.6	2.1
Tree nuts	3.3	3.2	3.6	3.8	3.8	3.5

For footnotes *see* over.

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS—*continued*
(Kg—unless otherwise indicated)

Commodity	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Oils and fats—						
Butter	4.3	4.0	3.9	3.9	3.8	3.5
Margarine						
Table margarine	6.8	6.8	6.9	6.6	6.9	6.8
Other margarine	2.7	2.8	2.7	2.3	2.1	2.1
Total margarine	*9.5*	*9.6*	*9.6*	*9.0*	*9.0*	*8.9*
Total (fat content) *(d)*	**21.8**	**21.6**	**21.5**	**21.0**	**21.0**	**20.6**
Sugar—						
As refined sugar	12.5	12.0	11.5	10.0	8.2	8.6
In manufactured foods	34.8	34.0	32.4	34.2	36.8	35.3
Total	*47.2*	*46.0*	*43.9*	*44.2*	*45.0*	*43.9*
Honey	0.9	0.8	0.9	0.7	0.8	0.9
Total *(e)*	**51.5**	**49.6**	**49.0**	**49.1**	**49.9**	**48.9**
Beverages—						
Tea	1.6	1.4	1.5	1.4	1.4	1.3
Coffee *(f)*	1.9	2.0	2.1	2.0	1.6	1.8
Aerated and carbonated waters (litres)	64.2	65.7	63.0	67.3	73.0	73.6
Beer (litres)	128.6	121.6	117.8	114.5	115.5	111.0
Wine (litres)	19.1	19.7	20.4	21.3	21.6	21.0
Spirits (litres alcohol)	1.2	1.2	1.1	1.2	1.3	1.2

(a) Includes bacon and ham. *(b)* Includes flour used for breadmaking. *(c)* Data from 1982–83 consist of commercial disposals only. *(d)* Includes an estimate for vegetable oils and other fats. *(e)* Includes sugar content of syrups and glucose. *(f)* Coffee and coffee products in terms of roasted coffee.

Nutrients

The nutrients table has been compiled by the Nutrition Section of the Commonwealth Department of Community Services and Health and is based on the estimates of the quantity of foodstuffs available for per capita consumption.

For further information on the level of nutrient intake *see* the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

ESTIMATED SUPPLY OF NUTRIENTS AVAILABLE FOR CONSUMPTION (a)
(per capita per day)
(*Source*: Department of Community Services and Health)

Nutrient	*Unit*	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Protein							
Animal	g	65.0	64.1	62.9	64.3	64.7	63.2
Vegetable	g	33.2	32.2	34.7	34.4	34.1	34.4
Total	*g*	*98.2*	*96.3*	*97.6*	*98.7*	*98.8*	*97.7*
Fat (from all sources)	g	148.0	145.9	146.3	146.0	146.7	143.1
Carbohydrate	g	399.9	386.3	405.7	407.5	404.6	403.1
Calcium	mg	917	914	912	924	914	931
Iron	mg	15.0	14.9	15.1	15.3	15.2	14.9
Vitamin A activity	µg	1,510	1,496	1,446	1,400	1,367	1,436
Vitamin C *(b)*—							
Unadjusted	mg	105.0	114.0	122.0	119.0	112.0	114.0
Adjusted	mg	77.0	88.0	93.2	90.8	83.8	87.3
Thiamin *(b)*—							
Unadjusted	mg	1.8	1.8	1.9	1.9	1.9	1.9
Adjusted	mg	1.5	1.5	1.6	1.6	1.6	1.6
Riboflavin	mg	2.6	2.6	2.6	2.6	2.6	2.6
Niacin *(b)*—							
Unadjusted	mg	22.5	22.7	23.0	23.2	23.2	23.3
Adjusted	mg	38.9	38.7	39.3	39.7	39.7	39.7
Energy value	kJ	14,471	14,125	14,458	14,506	14,497	14,301

(a) Figures are based on conversion factors calculated from the revised and enlarged edition of S. Thomas and M. Corden *Metric Tables of Composition of Australian Foods*, Canberra, 1977. *(b)* Data show adjustments made for loss of nutrients in cooking and the extra niacin obtained from the metabolism of protein.

Land Tenures

Land tenure statistics mainly relate to land held under freehold tenure ('alienated or in process of alienation') or leasehold tenure ('leased or licensed') with all agricultural establishments falling within these categories. Descriptions of the land tenure systems of the States and the Territories, and conspectuses of land legislation in force were provided in *Year Book* No. 48 and *Year Book* No. 50.

Disposal of Crown lands

For a description of the provisions that exist in all mainland States for the disposal of Crown lands for public purposes, for unconditional purchase and occupation under lease or licence, *see Year Book* No. 61.

Closer settlement and war service settlement

Particulars of these are given in issues of the *Year Book* up to No. 22, and in *Year Book* Nos 48, 55 and 61.

Alienation and occupation of Crown lands

For data relating to land tenures in the States and Territories, *see Year Book* No. 66 and *Year Book* No. 67.

Land Utilisation in Australia

The total area under tenure differs from the total area of agricultural establishments (shown in the following table) by amounts which represent unused land or land held for non-agricultural purposes. In general, land in the more fertile regions tends to be mostly freehold, while the less productive land is held under Crown lease or licence.

AREA OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY
(million hectares)

At 31 March	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Aust. (incl. ACT)*
1983	64.0	14.2	155.9	60.2	112.0	2.2	75.2	483.8
1984	64.0	14.3	158.1	62.1	114.3	2.2	73.7	488.6
1985	63.7	14.2	157.2	62.7	114.0	2.1	74.0	488.0
1986	63.3	14.2	158.1	60.7	113.8	2.1	72.9	485.2
1987	60.8	13.1	152.0	57.4	113.0	2.0	71.2	471.0
1988	61.5	13.1	152.4	60.0	113.5	2.0	69.6	472.0

LAND UTILISATION: AUSTRALIA
(million hectares)

	Area of			*Total*	
Year	*Crops (a)*	*Sown pastures and grasses*	*Balance (b)*	*Area of establishments*	*Percentage of Australian land area (768,284,000 hectares)*
1982–83	19.4	25.6	438.8	483.8	63.0
1983–84	22.0	26.1	440.5	488.6	63.6
1984–85	21.1	27.1	439.8	488.0	63.5
1985–86	20.9	27.5	436.8	485.2	63.2
1986–87	20.0	27.3	424.0	471.0	61.3
1987–88	18.4	28.6	426.0	472.0	61.4

(a) Excludes pastures and grasses harvested for hay and seed which have been included in 'sown pastures and grasses'. *(b)* Used for grazing, lying idle, fallow, etc.

The total area of agricultural establishments in 1986–87 constituted 61.4 per cent of the Australian land area, the remainder being urban areas, State forests and mining leases, with an overwhelming proportion of unoccupied land (mainly desert). The balance data include large areas of arid or rugged land held under grazing licences but not always used for grazing. Balance data also include variable amounts of fallow land.

The crop area data represent up to 3.9 per cent of the area of agricultural establishments and emphasise the relative importance of the livestock industry in Australia.

Crops

For this section, statistics relating to crop areas and production have been obtained from the annual Agricultural Census. The Census returns are collected in all States and the two Territories at 31 March each year and relate mainly to crops sown in the previous twelve months.

Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a supplementary collection after the harvest is completed. Additional statistics relating to value of agricultural commodities produced, manufactured production and overseas trade are also included. Agricultural Census data published in this section refer to the 'agricultural' year ended 31 March, while other data refer to the year ended 30 June; but for most purposes there will be little error involved in considering 'agricultural year' data as applying to the financial year.

The following table shows the area of crops in each of the States and Territories of Australia since 1870–71.

AREA OF CROPS (a)
('000 hectares)

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1870–71	156	280	21	325	22	64	—	—	868
1880–81	245	627	46	846	26	57	—	—	1,846
1890–91	345	822	91	847	28	64	—	—	2,197
1900–01	990	1,260	185	959	81	91	—	—	3,567
1910–11	1,370	1,599	270	1,112	346	116	—	—	4,813
1920–21	1,807	1,817	316	1,308	730	120	—	1	6,099
1930–31	2,756	2,718	463	2,196	1,939	108	1	2	10,184
1940–41	2,580	1,808	702	1,722	1,630	103	—	2	8,546
1949–50	2,295	1,881	832	1,518	1,780	114	—	4	8,424
1954–55	2,183	1,904	1,049	1,711	2,069	122	—	2	9,040
1959–60	2,888	1,949	1,184	1,780	2,628	130	1	3	10,564
1964–65	4,182	2,621	1,605	2,414	3,037	163	2	4	14,028
1969–70	4,999	2,212	2,208	2,290	3,912	98	6	2	15,728
1971–72	4,186	1,925	2,017	2,278	3,751	67	7	1	14,231
1972–73	4,329	1,943	1,963	2,122	3,814	80	12	1	14,265
1973–74	4,628	1,981	1,786	2,451	4,133	74	6	1	15,060
1974–75	4,089	1,772	1,898	2,257	3,754	67	7	1	13,845
1975–76	4,285	1,851	2,010	2,116	4,208	60	8	1	14,539
1976–77	4,520	1,943	2,026	2,036	4,417	65	2	1	15,010
1977–78	4,984	2,163	2,107	2,564	4,910	70	1	1	16,800
1978–79	5,020	2,209	2,307	2,827	4,993	80	2	1	17,438
1979–80	5,243	2,243	2,334	2,771	5,281	79	2	1	17,954
1980–81	5,208	2,180	2,481	2,772	5,547	84	1	1	18,273
1981–82	5,744	2,184	2,765	2,865	5,963	90	2	1	19,613
1982–83	5,200	2,234	2,648	2,856	6,380	98	3	1	19,420
1983–84	6,566	2,655	2,998	3,108	6,526	101	5	1	21,961
1984–85	5,789	2,569	3,047	2,902	6,723	99	6	1	21,136
1985–86	5,990	2,528	3,231	3,039	5,970	88	7	1	20,853
1986–87	5,325	2,317	3,036	3,066	5,930	78	12	—	19,764
1987–88	4,908	2,159	2,870	2,990	5,334	84	13	1	18,359

(a) The classification of crops was revised in 1971–72 and adjustments made to statistics back to 1967–68. After 1966–67 lucerne for green feed, hay and seed, and pasture cut for hay and harvested for seed or green feed are excluded.
NOTE: From 1970–71 to 1980–81 figures related to area 'used for' crops, i.e. an area used for more than one purpose during the year was counted only once. From 1981–82, an area double cropped has been counted separately each time used.

The wide range of climatic and soil conditions over the agricultural regions of Australia has resulted in a diversity of crops being grown throughout the country. Generally, cereal crops (excluding rice, maize and sorghum) are grown in all mainland States over wide areas, while other crops are confined to specific locations in a few States. However, scanty or erratic rainfall, limited potential for irrigation and unsuitable soils or topography have restricted intensive agriculture. Despite this, agricultural production has increased over time to meet increased demands both in Australia and from overseas.

The following table provides a summary of the area, production and gross value of the principal crops in Australia.

CROPS: AREA, PRODUCTION AND GROSS VALUE

	1985–86			*1986–87*			*1987–88*		
	Area ('000 ha)	*Production ('000 tonnes)*	*Gross value ($m)*	*Area ('000 ha)*	*Production ('000 tonnes)*	*Gross value ($m)*	*Area ('000 ha)*	*Production ('000 tonnes)*	*Gross value ($m)*
Cereals for grain—									
Barley	3,284	4,868	587	2,274	3,548	433	2,346	3,417	460
Grain sorghum	734	1,416	181	818	1,419	162	745	1,633	208
Maize	84	278	40	58	206	31	56	208	32
Oats	1,068	1,330	138	1,140	1,584	165	1,275	1,698	195
Rice	107	716	81	96	608	85	106	740	117
Wheat	11,736	16,167	2,719	11,135	16,119	2,530	9,005	12,287	2,016
Legumes for grain	894	854	163	1,244	1,315	294	1,615	1,342	330
Crops for hay—									
Oats	182	594	47	205	676	58	228	714	61
Wheat	59	165	13	67	186	15	76	200	17
Crops for green feed, silage—									
Barley	75	n.a.	n.a.	85	n.a.	n.a.	91	n.a.	n.a.
Forage sorghum	117			117			212		
Oats	662			645			759		
Wheat	29			71			60		
Sugar cane cut for crushing	304	24,402	494	300	24,742	586	387	24,832	618
Tobacco	5	11	56	5	12	65	5	13	73
Cotton	177	685	325	156	612	373	245	762	425
Peanuts (in shell)	29	43	38	34	48	42	32	37	33
Soy Beans	71	105	28	54	90	27	43	69	29
Rapeseed	74	87	24	65	76	18	58	66	18
Sunflower	277	215	53	193	137	34	200	216	66
Fruit (excl. grapes)	113	—	679	107	—	837	109	—	886
Fruit—									
Orchard	94	—	518	89	—	634	91	—	670
Oranges	n.a.	496	132	n.a.	504	126	n.a.	479	146
Apples	20	292	139	19	325	205	19	300	186
Pears	n.a.	143	64	n.a.	145	77	n.a.	102	78
Peaches	n.a.	61	29	n.a.	61	41	n.a.	66	48
Bananas	10	134	102	9	156	127	9	160	133
Pineapples	6	132	33	6	142	42	6	147	41
Grapes	64	907	270	57	783	272	57	799	354
Vegetables	111	—	714	111	—	885	117	—	953
Potatoes	36	965	206	37	1,015	267	40	1,082	270
Total, all crops (excluding pastures)	**20,853**	**—**	**7,049**	**19,764**	**—**	**7,318**	**18,359**	**—**	**7,812**

Cereal Grains

In Australia, cereals are conveniently divided into autumn–winter–spring growing ('winter' cereals) and spring–summer–autumn growing ('summer' cereals). Winter cereals such as wheat, oats, barley and rye are usually grown in rotation with some form of pasture such as grass, subterranean clover, medics or lucerne. In recent years, alternative winter crops such as rapeseed, field peas and lupins have been introduced to cereal rotation in areas where they had not previously been grown. Rice, maize, sorghum and the millets are summer cereals with the latter two being grown in association with winter cereals in some areas. In Northern Queensland and Western Australia there are two rice growing seasons—a dry season winter crop and a wet season summer crop.

Cereals for grain form a significant percentage of both the value of Australia's agricultural commodities and of the country's export earnings. The following table shows the significance of cereal grains in the last 6 years.

CEREAL GRAINS IN AUSTRALIA: A PERSPECTIVE

Year	*Cereal grains (a)*		*Total agriculture gross value*	*Total Australian exports— all produce value f.o.b.*	*Gross value of cereal grains as a percentage of gross value of agriculture*	*Export value of cereal grains as a percentage of total Australian exports*
	Gross value	*Export value f.o.b.*				
	$m	$m	$m	$m	per cent	per cent
1982–83	2,230.4	1,669.7	11,714	21,454	19.0	7.8
1983–84	4,950.6	2,564.9	15,425	24,013	32.1	10.6
1984–85	4,492.6	4,068.8	15,444	29,708	29.1	13.7
1985–86	3,790.8	3,812.6	15,406	32,795	24.6	11.6
1986–87	3,449.8	2,628.6	17,272	35,783	20.0	7.3
1987–88	3,072.8	2,089.6	20,151	39,691	15.2	5.3

(a) Principally wheat, barley, oats, grain sorghum, rice and maize, with panicum/millet, canary seed and rye being minor cereals.

Wheat

Wheat is grown in all States, and is Australia's most important crop in terms of production and exports. As 70 to 80 per cent of the wheat crop is exported, wheat marketing arrangements play an important role in the industry. The Australian Wheat Board (AWB) was constituted in September 1939, under National Security (Wheat Acquisition) Regulations, to purchase, sell or dispose of wheat and wheat products. At the end of World War II, the AWB continued to operate under extensions to these regulations, until 1948, when the Commonwealth and States agreed to national marketing arrangements. After a poll of growers had approved the plan the necessary complementary legislation was passed by the Commonwealth and the States. The *Wheat Industry Stabilization Act 1948* established the present AWB to acquire and market all wheat and to administer successive stabilisation plans. The *Wheat Marketing Act 1979* replaced the stabilisation plans with a guaranteed minimum price scheme, applicable to an unlimited quantity of wheat.

Wheat marketing and pricing arrangements 1984–85 to 1988–89

The basic elements of the new arrangements were negotiated between the Australian Wheatgrowers' Federation (now renamed the Grains Council of Australia) and Commonwealth and State Governments. The enactment of State legislation complementary to the Commonwealth legislation was necessary for the implementation of a national scheme.

Under these arrangements, which applied until 30 June 1989, the AWB was maintained as the statutory authority responsible for the marketing of wheat in Australia and overseas. It was also able to issue permits for the domestic sale of stockfeed wheat outside the pooling arrangements. The concept of a guaranteed minimum price is retained. The AWB has been given greater commercial freedom but is required to operate in accordance with an approved corporate plan and be accountable to growers as well as to parliament. Some of the main features of the 1984–85 to 1988–89 plan are outlined below.

Guaranteed Minimum Price

The Commonwealth Government underwrites wheat returns on a net basis through a Guaranteed Minimum Price (GMP) Scheme. The Australian Standard White (ASW) GMP is set at 95 per cent of the average of the estimated gross return per tonne for all wheat (ASW basis) from the subject season and the lowest two of the previous three seasons less the estimated pool costs per tonne for the subject season. Separate GMPs are established for categories of wheat, the quality of which is above or below ASW, based on the expected market value of the wheat in those categories relative to ASW.

Growers receive a split first advance payment. Upon delivery of the wheat, a grower is paid 90 per cent of the estimated GMP for the relevant category less contributions to research (wheat tax), dockages for non-approved varieties and allowances for storage, handling and transportation charges. When the final GMP has been determined (before 1 March during the subject season), the grower receives the final GMP, increased or decreased by an allowance for the quality of wheat (in addition to the deductions made at the time of delivery), less the interim advance payment already received. Initial allowances could be adjusted by the AWB at a later date to reflect actual costs and returns. If the net return per tonne exceeds the GMP, the excess is returned to growers by way of a final payment, made by instalments over a number of years. The government guarantees to meet any deficiency between the net pool return rate and the GMP.

These arrangements are market related but they provide the industry with support from the government that is designed to help it overcome any major short-run down-turn in producers' returns. Particulars of GMP rates may be found in *Crops and Pastures, Australia* (7321.0).

Financial arrangements

From 1984–85, the AWB, with the Minister's approval, was able to borrow overseas up to an amount equal to the aggregate size of expected foreign currency denominated sales in respect of a particular season, provided that amount did not exceed that season's net financing requirement.

Domestic pricing

The domestic price for human consumption wheat was determined each quarter by averaging the quoted export prices for the forward and past quarters and adding a margin to cover the additional costs of servicing the domestic market. Domestic prices for industrial and stockfeed wheats were quoted daily by the AWB in the light of its commercial judgment and were related to export prices. A Tasmanian freight levy applied to all wheat sales and was used exclusively to cover the cost of shipping wheat from the mainland to Tasmania each season.

Domestic marketing arrangements

The AWB controls the domestic marketing of wheat although domestic stockfeed wheat may be directly sold by growers to buyers under a permit issued by the AWB. The availability of these permits was governed by guidelines issued by the Federal Minister for Primary Industries and Energy and the relevant State Ministers. Wheat sold pursuant to a stockfeed purchase permit is subject to a deduction to cover wheat research tax, Tasmanian freight, the AWB's administration costs and an adjusted bulk handling authority charge. No pooling or GMP provisions or minimum or maximum prices apply in respect of such wheat.

The AWB could also authorise a grower to sell wheat on behalf of the AWB under grower-to-buyer direct delivery transactions. The grower and buyer negotiate quality and freight allowances around the AWB's domestic ASW price applicable for the same end use. The proceeds of sale are incorporated in the AWB's pooling arrangements.

The grower receives payment from the AWB as if he had delivered ASW wheat, adjusted by the abovementioned allowances including a reduction in the relevant bulk handling authority's charge.

Wheat which is retained by a grower for his own use does not come under the control of the AWB. The AWB has power to import wheat for use on the domestic market.

Overseas marketing arrangements

Under the 1984 Act, the AWB maintains sole authority for the export of wheat but no longer controls the export of wheat products. The Act extended the powers of the Board in relation to overseas marketing to enable it to enter into tripartite barter arrangements and the sale and shipment of other grains in combination with wheat. The AWB undertakes market research and promotion both within and outside Australia.

Wheat classification

Unlike the other wheat exporting nations, Australia does not produce red grained wheats, nor does it have the traditional winter or spring wheats found in the northern hemisphere.

All Australian wheats are white grained, and all are planted during the Australian winter months of May, June and July. They grow during the spring months of August, September and October. The harvest commences in Queensland in September–October and gradually progresses southwards, culminating in Victoria and the southern part of Western Australia in January.

The various combinations of wheat varieties, soil fertility and seasonal conditions encountered throughout the Australian wheat belt enable a wide spectrum of recognised wheat types to be produced. These range from high protein hard grained wheats to low protein soft grained wheats.

Before wheat delivered by farmers can be received into the bulk handling system, the wheat must conform to strict receival standards. These standards are set by the AWB and relate to moisture content (12 per cent maximum), test weight (74 kilograms per hectolitre minimum), no insects, and a range of tolerances for unmillable material, weather damaged and sprouted kernels, foreign matter and foreign seeds.

In addition to the receival standards, a system of varietal control operates Australia-wide in which the AWB can impose a monetary penalty on wheat received according to the variety delivered and the region of production. The aim of this system is to ensure that varieties are grown in areas where the protein content that they are likely to achieve is in line with the processing characteristics of the wheat (grain hardness, milling quality, dough properties), and to highlight to growers the need to grow marketable varieties of wheat.

The system of classification of Australian wheats has evolved in response to changing market demands. The wheats are classified into two broad categories, namely the milling and non-milling classes, according to test weight, grain soundness and other physical factors. Further classification into grades is based on wheat variety, protein content and grain hardness.

Australian wheats of the following categories are suitable for milling purposes:

- Australian Prime Hard
- Australian Hard
- Australian Standard White (ASW)
- Australian Soft
- Australian Durum
- Australian General Purpose 1

Australian General Purpose 2 and Feed categories are non-milling wheats which have incurred weather damage or have some other defect.

There can exist within each category a number of individual classes, many of which have been developed to meet individual customer requirements. Particulars of Australian wheat standards may be found in *Crops and Pastures, Australia* (7321.0).

WHEAT: AREA, PRODUCTION AND RECEIVALS

	Area (a)		*Production (a)*		*Australian Wheat Board*
Season	*For grain*	*All purposes*	*Grain*	*Gross value*	*receivals (b)*
	'000 ha	'000 ha	'000 tonnes	$m	'000 tonnes
1982–83	11,520	11,755	8,876	1,566.2	7,927
1983–84	12,931	13,025	22,016	3,605.6	21,059
1984–85	12,078	12,150	18,666	3,202.9	17,544
1985–86	11,736	11,823	16,167	2,719.4	15,085
1986–87	11,135	11,274	16,119	2,530.4	15,288
1987–88	9,005	9,141	12,287	2,015.7	10,740

(a) Area and production data relate to the year ending 31 March. *(b)* Due to amendments to the *Wheat Marketing Act 1979*, the AWB has changed from a December–November to an October–September crop year.

WHEAT FOR GRAIN: AREA AND PRODUCTION, BY STATE

Season	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust.*
			AREA ('000 hectares)				
1982–83	3,162	1,327	767	1,398	4,865	1	11,520
1983–84	3,999	1,614	1,006	1,564	4,746	2	12,931
1984–85	3,603	1,523	921	1,378	4,652	2	12,078
1985–86	3,663	1,508	973	1,443	4,148	2	11,736
1986–87	3,099	1,364	795	1,616	4,260	2	11,135
1987–88	2,464	1,026	646	1,556	3,312	1	9,005
			PRODUCTION ('000 tonnes)				
1982–83	1,499	394	754	692	5,534	1	8,876
1983–84	8,961	3,971	1,922	2,843	4,316	3	22,016
1984–85	5,805	2,666	1,579	2,031	6,580	4	18,666
1985–86	5,916	2,250	1,691	1,944	4,362	4	16,167
1986–87	4,855	2,795	833	2,255	6,377	5	16,119
1987–88	3,997	1,882	718	1,803	3,882	4	12,287

PRODUCTION AND DISPOSAL OF WHEAT
('000 tonnes)

	1983	*1984*	*1985*	*1986*	*1987*	*1988*
Year ended 31 March—						
Production	8,876	22,016	18,666	16,167	16,119	12,287
Balance held on farm for seed, feed and other uses	949	957	1,122	1,082	851	902
Year ended 30 September *(a)*—						
Wheat received	7,927	21,059	17,544	15,085	15,288	10,740
Carry-in	4,879	2,285	7,518	8,456	5,838	3,772
Total availability for export, domestic disposal and carryover	12,806	23,344	25,062	23,541	21,126	14,512
Exports of wheat, flour and wheat products	7,280	14,159	14,679	16,026	15,582	9,962
Domestic disposals	3,241	1,667	1,941	1,709	1,772	1,715
Total disposals	*10,521*	*15,826*	*16,620*	*17,735*	*17,354*	*11,677*

(a) Due to amendments to the *Wheat Marketing Act 1979*, the AWB has changed from a December–November to an October–September crop year.

Central Grain Research Laboratory

In 1976, the Australian Wheat Board established this laboratory in Sydney as an addition to the facilities of the Bread Research Institute of Australia. The main functions of the laboratory are to test and report on the Australian crop, to analyse and compare competitor wheats from other countries and to develop research programs to aid the marketing of wheat. Wheat pools

Details of wheat receivals by State of origin for the several Pools together with Pools payments and times of payment will be found in the latest issue of *Crops and Pastures, Australia* (7321.0) or in Australian Wheat Board Annual Reports..

International Wheat Agreement

A number of Agreements have operated since 1933 to provide a valuable framework for continuing international consultation and cooperation on world wheat matters, including the regular monitoring of the world wheat situation. On 1 July 1986, the International Wheat Agreement 1986 entered into force and will remain in force until 30 June 1991. It comprises two separate legal instruments, the Wheat Trade Convention and the Food Aid Convention, linked by a common preamble. The primary objective of the Wheat Trade Convention is to promote international cooperation in all aspects of trade in wheat and other grains. Under the Food Aid Convention, countries undertake to provide minimum annual amounts of food grain as aid. Contributions are made by both wheat importing and exporting countries in the form of grain (or grain products) for human consumption or cash for the purchase of grain.

WHEAT EXPORTS: A COMPARISON WITH OTHER EXPORT COMMODITIES (a)

Year	*Wheat for grain: export*		*Total Australian exports—all produce: value f.o.b.*	*Export value of wheat for grain as a percentage of total Australian exports*
	Quantity	*Value f.o.b.*		
	'000 tonnes	$m	$m	per cent
1982–83	8,022	1,343.1	21,454	6.1
1983–84	10,535	1,813.8	24,013	7.3
1984–85	15,704	2,866.9	29,708	9.8
1985–86	16,109	2,968.8	32,795	9.3
1986–87	14,789	2,168.3	35,783	6.1
1987–88	12,157	2,722.6	39,691	6.9

(a) These statistics exclude re-exports.

Australia acceded to the Wheat Trade Convention, 1986 in July 1986. Major changes from the previous Wheat Trade Convention, which operated from 1971, include expansion to cover coarse grains and amendments to reflect the fact that the Convention does not contain economic provisions. The Wheat Trade Convention through its plenary body, the International Wheat Council (IWC), provides a forum for exchange of information and discussion of members' concerns regarding trade in grains. In the context of the current round of GATT Multilateral Trade Negotiations, Australia has proposed that the IWC Secretariat undertake a study examining the effects of changes in national policies on world grains markets.

Australia made a formal application to accede to the Food Aid Convention, 1986 at the 53rd Session of the Food Aid Committee in December 1986 with a minimum annual contribution of 300,000 tonnes, compared with 400,000 tonnes under the previous Convention. The decision to reduce the level of Australia's commitment was made against the background of the severe economic difficulties being experienced in Australia which, inter alia, have effectively reduced our capacity to provide development assistance, including food aid. Australia's application was accepted at the 54th Session of the Food Aid Convention in June 1987.

Coarse grains

In the late sixties and early seventies, restrictions on wheat deliveries and low returns in the sheep industry caused a resurgence of interest in coarse grain crops and the newer oilseed crops. The resultant higher level of plantings and production has been maintained, despite the lifting of wheat delivery quotas and a general improvement in market prospects for wheat, wool and meat.

Oats

Oats are traditionally a cereal of moist temperate regions. However, improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. They have a high feed value and produce a greater bulk of growth than other winter cereals; they need less cultivation and respond well to superphosphate and nitrogen. Oats have two main uses: as a grain crop, or as a fodder crop, (following sowing or fallow or rough sowing into stubble or clover pastures). Fodder crops can either be grazed and then harvested for grain after removal of livestock or else mown and baled or cut for chaff. Oats produced in New South Wales are marketed through a statutory board while the Victorian Oatgrowers' Pool and Marketing Company Ltd and private merchants market the bulk of oats produced in Victoria. In South Australia the Barley Marketing Act was amended in 1977 to give the Australian Barley Board powers over oat marketing in that State. Under the legislation amendments, the Board controls export sales and grain resold on the local market; however, direct sales between producers and consumers are outside the Board's supervision. In Western Australia, oats are marketed under a warehousing system operated by Co-operative Bulk Handling Ltd.

Oats are usually next in importance to wheat and barley among the grain crops. About three-quarters of the crop is used domestically as stockfeed or for human consumption.

OATS FOR GRAIN: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1982–83	1,212	848	116.1	83	13.2
1983–84	1,772	2,296	203.8	289	40.9
1984–85	1,041	1,367	129.6	391	49.0
1985–86	1,068	1,330	138.3	185	25.1
1986–87	1,140	1,584	164.8	190	26.3
1987–88	1,275	1,698	195.0	215	31.2

Barley

This cereal contains two main groups of varieties, 2-row and 6-row. The former is generally, but not exclusively, preferred for malting purposes. Barley is grown principally as a grain crop although in some areas it is used as a fodder crop for grazing, with grain being subsequently harvested if conditions are suitable. It is often grown as a rotation crop with wheat, oats and pasture. When sown for fodder, sowing may take place either early or late in the season, as it has a short growing period. It may therefore provide grazing or fodder supplies when other sources are not available. Barley grain may be crushed to meal for stock or sold for malting.

Crops sown for malting purposes require a combination of light textured soil of moderate fertility, reliable rainfall, and mild weather during ripening. The main barley-growing areas in Australia are situated in South Australia, but considerable quantities are also grown in

New South Wales, Western Australia, Victoria and Queensland. In December 1980, a joint Commonwealth–industry research scheme for the barley industry commenced operation. The scheme is financed by a levy on barley production and a Commonwealth contribution not exceeding the total of the levy.

Barley is marketed by statutory marketing authorities in each of the mainland States. The Australian Barley Board controls marketing in both South Australia and Victoria, while separate authorities operate in the three other States.

BARLEY FOR GRAIN: AREA, PRODUCTION AND EXPORTS

		Production				*Exports*	
				Total			
Year	*Area*	*2-row*	*6-row*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	—'000 tonnes—			$m	'000 tonnes	$m
1982–83	2,452	1,785	153	1,939	287.6	834	131.4
1983–84	3,109	4,585	305	4,890	732.6	3,121	499.4
1984–85	3,518	5,194	361	5,554	759.3	5,183	750.0
1985–86	3,284	4,635	233	4,868	586.8	4,168	536.6
1986–87	2,274	3,397	151	3,548	432.6	2,191	254.1
1987–88	2,346	3,283	134	3,417	460.0	1,146	126.2

Grain sorghum

The sorghums are summer growing crops which are used in three ways: grain sorghum for grain; sweet or fodder sorghum, sudan grass and, more recently, columbus grass for silage, green feed and grazing; and broom millet for brooms and brushware.

Grain sorghum has been grown extensively only in the last two decades. Rapid increases in production have resulted in a substantial increase in exports over this period. The grain is used primarily as stockfeed and is an important source for supplementing other coarse grains for this purpose.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum. In Queensland, grain sorghum production is concentrated in the Darling Downs, Fitzroy and Wide Bay–Burnett Divisions. In New South Wales, the northern and north-western slopes and plains are the main areas.

In Queensland, a degree of orderly marketing is ensured by the operation of the Central Queensland Grain Sorghum Marketing Board (a statutory authority in a defined area in central Queensland). A State statutory marketing board handles sorghum grown in New South Wales.

GRAIN SORGHUM: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1982–83	907	958	124.4	445	53.9
1983–84	730	1,885	246.3	772	110.7
1984–85	723	1,369	196.9	1,594	242.1
1985–86	734	1,415	180.8	1,234	177.6
1986–87	818	1,419	161.5	818	90.6
1987–88	745	1,633	208.0	415	48.3

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. Maize for grain is almost entirely confined to the south-east regions and Atherton Tablelands of Queensland; and the north coast, northern slopes and tablelands and the Murrumbidgee Irrigation Area in New South Wales. Small amounts are grown in all States, except South Australia, for green feed and silage, particularly in association with the dairy industry.

A statutory board controls the marketing of maize in the Atherton Tablelands area of Queensland. A large proportion of the crop is sold directly to food processors.

MAIZE: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1982–83	64	139	23.3	18	2.4
1983–84	68	238	35.6	19	2.8
1984–85	103	291	46.1	140	24.9
1985–86	84	278	40.4	81	13.2
1986–87	56	206	31.1	46	7.0
1987–88	56	208	32.0	12	1.9

Rice

In Australia, rice was first grown commercially in 1924–25 in the Murrumbidgee Irrigation Area, one of three irrigation areas in southern New South Wales where rice is now produced. Today, about 97 per cent of Australia's rice is grown in New South Wales. The remainder is grown in the Burdekin River basin and at Mareeba in Northern Queensland.

Rice is a summer growing crop in New South Wales. The combination of irrigation water and the relatively cloudless days characteristic of summers in temperate regions of the world is the main contributing factor to the very high yields per hectare often achieved by New South Wales growers. In Queensland, a winter and a summer crop are grown.

State statutory marketing boards are responsible for the marketing of the New South Wales and Queensland crops.

RICE: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity (a)*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1982–83	85	548	88.4	405	120.3
1983–84	119	632	88.9	246	91.9
1984–85	122	866	123.1	341	121.7
1985–86	107	716	80.5	178	77.0
1986–87	96	608	85.1	186	73.6
1987–88	106	740	117.4	115	52.3

(a) In terms of paddy (or rough) rice.

Oilseeds

Specialised oilseeds

The oilseeds industry is a relatively young industry by Australian agricultural standards. Production has increased rapidly in recent years following changes in relative profitability and agronomic advances. The expected profitability of oilseeds relative to crops such as wheat and coarse grains will continue to influence future production levels in the industry. This profitability will be related to domestic and international markets for protein meals and vegetable fats and oils.

The specialist oilseed crops grown in Australia are sunflower, soybeans, rapeseed, safflower and linseed. Sunflower and soybeans are summer grown while the others are winter crops. In Australia, oilseeds are crushed for their oil, which is used for both edible and industrial purposes and protein meals for livestock feeds.

Oilseed crops are grown in all States but the largest producing regions are the grain growing areas of the eastern States.

For area, production and gross value of several oilseed crops, *see* Crops: area, production and gross value in the Crops section of this chapter.

Sunflower

When crushed, sunflower seed yields a high quality dual purpose oil used primarily to manufacture margarine, salad and cooking oils.

Queensland produces about two-thirds of the Australian crop with the Darling Downs and Central Highlands being the major regions. New South Wales is the next largest producer with the north-west of the State dominating production. Smaller amounts are produced in all other States except Tasmania.

Soybeans

The major uses of soybean oil are in salad and cooking oils and margarine. Small amounts are used in the production of paints, detergents and plastics. Soybeans also yield a high protein feed for livestock with a small proportion used to manufacture adhesives and synthetic fibres and meats.

Queensland and New South Wales produce virtually all of Australia's soybean crop. The main producing areas are the irrigation districts of the Darling Downs and northern New South Wales. Lesser areas include the Burnett and Lockyer regions of Queensland, while production of raingrown soybeans is expanding on the North Coast of New South Wales.

In irrigated areas, soybeans have increasingly been used as a rotational crop for cotton.

Rapeseed

The main use of rapeseed oil has been in salad and cooking oils and in margarine with a small amount being used for industrial purposes.

The major production areas are the tablelands and western slopes of New South Wales followed by the south-east of South Australia and the Western Districts of Victoria. Smaller levels of production occur in the South Coast region of Western Australia.

Following significant increases in the 1960s and 1970s, rapeseed production declined rapidly due to problems of blackleg disease and erucic acid content. Production has recovered in recent years with the development of varieties to overcome these problems and in response to the crop rotation benefits of rapeseed.

Safflower

The oil from safflower is used in the production of cooking oil, margarine, soaps, paints, varnishes, enamels and textiles. In recent years, New South Wales and Queensland together have produced around 90 per cent of Australian output. In Queensland, most production occurs in the Central Highlands with smaller amounts coming from the Dawson–Callide Valley and the Darling Downs. New South Wales production is centred on the Central West.

Wide fluctuations in safflower production since the mid 1960s have been due to variable seasonal conditions affecting yields and the profitability of other crops which has influenced plantings.

Linseed

The oil from crushed linseed is used in the manufacture of paints, varnishes, technical inks and linoleum.

The main producing areas are the wheat belt of New South Wales, the Darling Downs in Queensland, the Western Districts of Victoria and, to a lesser extent, the south-eastern districts of Victoria. Linseed production has been generally declining in recent years.

Other oilseeds

Peanuts and cottonseed are summer crops grown primarily for human consumption and fibre purposes respectively. The rapid expansion of the cotton industry in recent years has resulted in cottonseed becoming the major oilseed in Australia. Cottonseed oil is used mainly in the manufacture of compound cooking fats and margarine. The least important source of vegetable oils in Australia is peanuts as it is only the low quality kernels which are crushed for oil. Crushings may vary between 3,000 and 7,000 tonnes per annum depending on the quality of the crop. Peanut oil is a high quality oil which is used in the manufacture of margarine and in compound cooking fats and is also used as a cooking and salad oil.

Peanuts

The major peanut growing areas are around Kingaroy in south-east Queensland and the Atherton Tablelands in North Queensland, with smaller pockets of production around Tweed Heads in New South Wales and around Douglas in the Northern Territory.

About 80 per cent of peanuts grown in Australia are of Virginia variety, the remainder being of Spanish types.

Local demand for peanuts and peanut products is comparatively static with a limited potential for growth corresponding to population growth. The local growing industry normally supplies most of the domestic demand for edible peanuts in its major outlets: peanut butter, packaged trade and confectionery. Any surplus is sold on export markets. Exports vary according to the size of the crop.

PEANUTS: AREA, PRODUCTION AND GROSS VALUE

Year	*Area*	*Production*	*Gross value*
	'000 hectares	'000 tonnes	$ million
1982–83	36	23	17.8
1983–84	32	47	40.2
1984–85	30	42	36.6
1985–86	29	43	38.1
1986–87	34	48	42.0
1987–88	32	37	33.0

Cotton

Cotton is grown primarily for its fibre (lint). When the cotton is matured, seed cotton is taken to a gin where it is separated (ginned) into lint, seed and thrash. Lint is used for yarn while seed is further processed at an oil mill. There the short fibres (linters) remaining on the seed after ginning are removed. They are too short to make into cloth but are used for wadding, upholstery and paper. The seeds are then separated into kernels and hulls. Hulls are used for stock feed and as fertiliser, while kernels are crushed to extract oil. The remaining cake is ground into meal which is protein roughage used as stock feed.

Over three-quarters of Australia's total production of cotton lint is grown in New South Wales, principally in the Namoi, Macquarie, Gwydir and McIntyre Valleys and the Bourke area. Irrigation water for these areas is provided from the Keepit, Burrendong, Copeton and Glenlyon Dams and the Darling River. The rest is grown in Queensland, in the Emerald, Biloela, St George, and Darling Downs areas. Most of these areas are also irrigated. Australian production has for some time satisfied most of the requirements of local mills for short and medium staple cotton. Since the mid 1970s there has been very strong investment growth in the cotton industry and the resultant surge in plantings has resulted in large amounts of cotton becoming available for export.

COTTON: AREA, PRODUCTION AND EXPORTS

		Seed cotton (a)				*Raw cotton export*	
Year	*Area*	*Quantity*	*Gross value*	*Cotton-seed (b)*	*Lint (c)*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	'000 tonnes	'000 tonnes	$m
1982–83	96	286	167.5	164	101	129	197.6
1983–84	137	401	268.8	230	141	82	147.9
1984–85	183	679	330.2	410	248	140	259.6
1985–86	177	685	324.9	366	259	241	378.4
1986–87	156	612	372.5	418	214	251	344.7
1987–88	245	762	425.1	435	281	177	353.0

(a) Before ginning. *(b)* Estimated by the Australian Bureau of Agricultural and Resource Economics. *(c)* Provided by the Raw Cotton Marketing Advisory Committee.

Sugar

Sugar cane is grown commercially in Australia along the east coast over a distance of some 2,100 kilometres in a number of discontinuous areas from Maclean in northern New South Wales to Mossman in Queensland. The geographical spread contributes to the overall reliability of the sugar cane crop and to Australia's record as a reliable sugar supplier.

Approximately 95 per cent of production occurs in Queensland, with some 75 per cent of the crop grown north of the Tropic of Capricorn in areas where rainfall is reliable and the warm, moist and sunny conditions are ideal for the growing of sugar cane. Farm sizes range between 20 and 70 hectares.

Australian cane farmers are regarded as amongst the most efficient in the world and employ a high degree of mechanisation in ploughing, planting, harvesting, and transportation activities. The Australian industry was the first in the world to introduce mechanical cultivation and harvesting techniques and by 1964 the entire industry had converted to bulk handling.

The cane crop is generally planted in April–May and harvested from June to December the following year. The major proportion of each year's crop is from ratoons while in

New South Wales most crops are allowed to grow for two seasons due to the slower growing conditions.

The organisation of the Australian sugar industry is complex. The Queensland Government controls the quantity of raw sugar produced through a system of mill peaks which is translated into cane quotas for growers. In addition the Queensland Government contracts with CSR Limited and Millaquin Sugar Company Pty Limited for the refining, marketing and distribution of home consumption needs, arranges through CSR Limited the export marketing of raw sugar, and regulates the division of industry proceeds between growers and millers.

There are 33 raw sugar mills located throughout the growing regions: 30 are located in Queensland and the remaining three in New South Wales. Fifteen of the mills are cooperatively owned by canegrowers and the remaining eighteen by proprietary companies. Refineries are located in each mainland capital city and at Bundaberg. The six bulk sugar export terminals located in Queensland are at present capable of storing 2.9 million tonnes. While raw sugar is the main product from mills, important by-products are bagasse (fibre), molasses, ash and filter mud.

In recent years sugar cane production has been around 24 million tonnes yielding between 2.8 and 3.3 million tonnes of sugar. Area, production and yield levels for sugar cane from 1982–83 to 1987–88 are provided in the following table.

SUGAR CANE: AREA, PRODUCTION AND YIELD

	New South Wales					*Queensland*				
	Sugar cane cut for crushing			*Raw sugar (a)*		*Sugar cane cut for crushing*			*Raw sugar (a)*	
Year	*Area harvested*	*Production*	*Yield*	*Quantity*	*Yield*	*Area harvested*	*Production*	*Yield*	*Quantity*	*Yield*
	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha
1982–83	16	1,702	106.5	176	11.0	303	23,115	76.4	3,324	11.0
1983–84	15	1,468	96.7	159	10.5	292	22,723	77.8	3,012	10.3
1984–85	15	1,540	103.6	199	13.4	298	23,910	80.3	3,349	11.2
1985–86	15	1,398	91.1	170	11.1	288	23,004	79.8	3,209	11.1
1986–87	24	1,276	93.2	n.y.a.	n.y.a.	287	23,466	81.8	n.y.a.	n.y.a.
1987–88	27	1,632	60.4	n.y.a.	n.y.a.	360	23,200	64.4	n.y.a.	n.y.a.

(*a*) In terms of 94 net titre.

The domestic market is reserved entirely for sugar produced in Australia. This is achieved by an embargo on the import of sugar. The maximum price of refined sugar for sale to wholesalers and manufacturers is fixed each six months under a formula contained in the Commonwealth–Queensland Sugar Agreement.

Domestic sales account for about 760,000 tonnes annually or approximately 20 per cent of the total industry sales. Granulated sugars account for about 75 per cent of the total domestic sales with liquid sugars (15 per cent), castor sugar (5 per cent), and raw sugar taking up the bulk of the remainder. About two-thirds of the sales of refined sugar products go to processed food and drink manufacturers.

The Australian sugar industry exports about 75 per cent of its annual raw sugar production and is one of the world's largest sugar exporters. The disposal pattern of Australia's sugar production is shown in the following table.

SUGAR: AREA, PRODUCTION, EXPORTS AND CONSUMPTION

		Production			*Exports*		*Apparent consumption in Australia (a)*	
		Sugar cane		*Raw sugar*	*Raw and refined sugar*			
Year	*Area harvested*	*Quantity*	*Gross value*	*Quantity*	*Quantity*	*Value f.o.b.*	*Total*	*Per head*
	'000 ha	mil. tonnes	$m	mil. tonnes	mil. tonnes	$m	'000 tonnes	kg
1982–83	319	25	508.9	4	3	557.7	703	46.0
1983–84	307	24	516.6	3	2	621.3	680	43.9
1984–85	313	25	512.2	4	3	572.2	692	44.2
1985–86	380	24	494.2	3	3	613.2	714	45.0
1986–87	379	25	586.4	3	4	632.5	707	43.9
1987–88	387	25	618.2	4	5	682.0	n.y.a.	n.y.a.

(a) Total quantity of sugar available for consumption in Australia comprises refined sugar and refined sugar contained in manufactured foods.

Australia has regularly participated in arrangements to regulate the international sugar market and was a signatory to the 1984 International Sugar Agreement (ISA). The Agreement is an administrative pact only, and unlike previous Agreements contains no economic provisions. This means that member countries are not constrained in their sugar exports.

Vegetables

Vegetables for human consumption

The area sown to vegetables reached a peak of over 200,000 hectares in 1945, but has remained static at around 109,000 hectares since 1975–76. However, yields from most vegetable crops have increased due to variety breeding for increased yields, greater use of irrigation and better control of disease and insect pests.

Because of the wide climatic range in Australia, supplies for main city markets are drawn from widely different areas, depending on the times of maturity of the various crops. Historically, market gardens were located near urban centres and, while many small scale growers still produce crops close to city markets, urban expansion, rising urban land values, improvements in transport and irrigation, and developments in freezing, canning and drying have extended the industry far from the cities. Transport costs are reduced by the location of processing establishments in producing areas, although city markets still absorb the bulk of fresh and processed produce.

For further information on vegetables *see Year Book* No. 70.

VEGETABLES FOR HUMAN CONSUMPTION: AREA AND PRODUCTION

Year	*French and runner beans*	*Cabbages*	*Carrots*	*Cauliflowers*	*Onions*	*Green peas*	*Potatoes*	*Tomatoes*	*Total vegetables*
				AREA ('000 hectares)					
1982–83	6.7	2.5	3.8	3.3	4.2	14.8	(a)37.4	8.7	110.3
1983–84	6.7	2.5	4.3	3.4	3.8	12.2	37.9	9.1	109.9
1984–85	6.3	2.4	4.6	3.6	4.4	11.4	38.4	9.3	111.0
1985–86	5.9	2.3	4.3	3.6	4.5	11.2	36.1	9.5	110.7
1986–87	5.9	2.9	4.6	3.7	4.3	11.7	36.7	8.6	111.3
1987–88	6.0	2.8	1.2	4.6	5.0	11.2	39.8	8.9	116.7

VEGETABLES FOR HUMAN CONSUMPTION: AREA AND PRODUCTION—*continued*

						Green peas			
Year	*French and runner beans*	*Cabbages*	*Carrots*	*Cauliflowers*	*Onions*	*Processing (shelled weight)*	*Sold in pod (pod weight)*	*Potatoes*	*Tomatoes*
				PRODUCTION ('000 tonnes)					
1982–83	33.5	67.2	105.0	76.5	129.0	46.0	1.9	858.5	224.1
1983–84	32.3	72.3	124.3	84.4	115.9	44.0	2.1	1,019.8	258.3
1984–85	31.1	69.5	130.6	101.1	151.7	41.8	2.1	992.1	270.5
1985–86	31.3	69.1	127.6	103.8	159.7	39.7	1.5	964.9	252.6
1986–87	29.4	82.9	146.0	91.6	164.7	33.4	1.2	1,015.2	266.0
1987–88	32.7	80.1	144.0	112.2	181.7	43.0	1.2	1,081.5	282.6

(a) Incomplete, information on this commodity was not separately collected in some States.

For further information on vegetables *see* the following publications: *Crops and Pastures, Australia* (7321.0), (ceased 1986–87) *Summary of Crops, Australia (7330.0) (first issue 1987–88). Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) *Value of Agricultural Commodities Produced, Australia* (7503.0), and *Year Book* No. 70.

Fruit (Excluding Grapes)

A wide variety of fruit is grown in Australia ranging from pineapples, mangoes and papaws in the tropics to pome, stone and berry fruits in the temperate regions.

In recent years there has been rapid expansion in the cultivation of many relatively new fruit crops in Australia and there is considerable scope for continued growth in the future.

Avocado is perhaps the most commonly known of these crops and production has expanded considerably during the past decade to a current gross value of over $10 million. Avocado production is mainly in Queensland and New South Wales with minor quantities produced in Western Australia, South Australia and Victoria.

Kiwifruit is a relatively new temperate fruit crop to Australia. Production has been expanding rapidly mainly in Victoria and New South Wales and further expansion is expected. Of the berry fruits, strawberries are widely grown, with largest production in Victoria and Queensland. Interest in the production of blueberries in Australia has developed only recently and plantings of blueberries have increased rapidly mainly in Victoria and New South Wales. Other berries (currants and raspberries) are grown predominantly in Tasmania and production has been reasonably constant over the past five years.

Tropical fruit such as mangoes, papaws, passionfruit, custard apples and guavas, are grown mainly in Queensland. Smaller quantities of tropical fruit are produced in the north coast region of New South Wales, Western Australia and more recently the Northern Territory. The largest expansion has been of mango production which has more than doubled since 1979. Given the large number of non-bearing mango trees, production is expected to continue to increase dramatically. There is also considerable interest in many other exotic tropical and subtropical fruits. Production of lychees and persimmons has recently commenced and some plantings of rambutan, sapote and longans have been made, mainly in Queensland and the north coast region of New South Wales.

SELECTED FRUIT STATISTICS

	Orchard fruit: number of trees ('000)				*Tropical and other fruits: area (ha)*			
Year	*Apples*	*Oranges*	*Pears*	*Peaches*	*Bananas*	*Pineapples*	*Other fruit*	*Total area of fruit (ha)*
1982–83	6,098	6,219	1,556	1,642	9,040	6,010	1,774	104,325
1983–84	6,066	6,397	1,584	1,646	9,282	6,011	2,085	107,534
1984–85	6,147	6,657	1,548	1,696	9,205	6,268	2,272	109,095
1985–86	6,397	6,777	1,592	1,793	9,640	6,325	2,432	112,655
1986–87	6,350	6,897	1,552	1,797	9,391	3,762	1,245	107,492
1987–88	6,555	6,873	1,779	1,867	9,195	6,269	2,024	166,100

Year	*Apples*	*Apricots*	*Bananas*	*Cherries*	*Oranges*	*Peaches*	*Pears*	*Pine-apples*	*Plums and prunes*
				PRODUCTION ('000 tonnes)					
1982–83	300.8	26.9	140.5	4.2	410.0	63.0	119.2	111.3	20.6
1983–84	267.0	23.6	146.4	3.5	391.8	48.3	122.1	115.1	20.0
1984–85	352.0	24.5	144.8	3.8	445.0	59.8	138.5	124.5	20.6
1985–86	292.1	29.6	134.4	3.9	496.2	61.4	142.9	131.6	21.7
1986–87	325.0	27.0	157.7	4.0	504.0	61.1	145.0	142.3	22.0
1987–88	300.0	28.0	160.1	5.0	479.0	66.0	162.0	146.5	18.0
				GROSS VALUE OF PRODUCTION ($ million)					
1982–83	132.4	18.3	70.1	7.9	101.0	21.3	41.9	25.4	16.9
1983–84	134.1	17.6	86.8	8.7	105.3	25.4	45.9	26.2	17.5
1984–85	178.3	19.7	93.2	10.8	131.9	28.3	50.7	33.5	19.8
1985–86	139.0	24.5	101.7	9.5	132.5	29.3	63.7	32.6	23.5
1986–87	204.5	25.5	126.7	11.9	126.1	40.9	76.8	42.0	25.2
1987–88	185.8	31.7	132.6	16.2	146.4	48.1	77.7	41.4	22.9

FRUIT: VALUE OF PRODUCTION AND EXPORTS
($ million)

	Gross value			
Year	*Orchard fruit*	*Tropical, berry and other*	*Total*	*Exports (a) value f.o.b.*
1982–83	396	113	509	135
1983–84	418	135	552	117
1984–85	522	149	671	152
1985–86	518	161	679	196
1986–87	634	203	837	242
1987–88	670	216	886	256

(a) Fruit and nuts, excluding grapes (fresh and dried); includes fresh, dried and preserved and fruit preparations.

For further data on fruits and fruit products *see* the publications *Fruit, Australia* (7322.0) (ceased 1986–87), *Summary of Crops, Australia* (7330.0) (first issue 1987–88), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0)

Grapes

Grapes are a temperate crop which require warm to hot summer conditions for ripening and predominantly winter rainfall. Freedom from late spring frosts is essential. They are grown for wine-making, drying and, to a lesser extent, for table use. Some of the better known wine producing areas are the Barossa, Clare, Riverland, Southern Districts and Coonawarra (SA); North-Eastern Victoria and Great Western (Vic.); Hunter and Riverina (NSW); Sunraysia (NSW and Vic.); Swan Valley and Margaret River (WA).

Nearly all the dried fruit is produced along the River Murray and its tributaries in Victoria and New South Wales with small localised areas in other States.

VITICULTURAL STATISTICS: AREA, PRODUCTION AND VALUE

	Area		*Productions: grapes used for—*			
					Total (a)	
Year	*Bearing*	*Total*	*Winemaking*	*Drying*	*Quantity*	*Gross value*
	'000 ha	'000 ha	'000 tonnes fresh weight	'000 tonnes fresh weight	'000 tonnes fresh weight	$m
1982–83	62	67	431	310	768	212.5
1983–84	60	65	495	320	841	217.0
1984–85	60	64	559	297	890	259.4
1985–86	60	64	510	359	907	270.0
1986–87	54	57	477	262	783	272.2
1987–88	54	57	460	293	799	353.7

(a) Includes grapes used for table and other purposes.

Multipurpose grapes are used predominantly for winemaking and drying, the latter process being particularly susceptible to adverse seasonal conditions. A serious over supply of dried vine fruit existed on world markets in 1983 and 1984, however the situation has improved since 1985 as a consequence of reduced production from northern hemisphere suppliers in late 1984. Australian exporters have made significant sales on international markets. The Australian Dried Fruits Corporation is the body responsible for the organisation of the export trade in dried vine fruits. The Corporation also administers the statutory Dried Vine Fruits Equalisation Scheme and the Dried Sultana Production Underwriting Scheme. Both these schemes were restructured by the government in 1985 following an inquiry into the dried vine fruits industry by the Industries Assistance Commission. The Government's objective was to make the industry more responsive to market signals. Until 1983, imports of dried vine fruit had been largely insignificant. However, since that time significant imports have occurred each year, the major sources being Greece and the United States. The Australian industry has demonstrated injury from subsidised imports from Greece and countervailing measures have been implemented.

Varietal statistics: 1988 season

VITICULTURE: AREA AND PRODUCTION BY VARIETY, 1988 SEASON (a)

	Area of vines at harvest				*Production*			
					Grapes used for—			
	Bearing	*Not yet bearing*	*All vines*	*Grubbings (actual and/or intended)*	*Wine-making*	*Drying*	*Other*	*Total*
	—hectares—				—tonnes (fresh weight)—			
Red grapes—								
Cabernet Sauvignon	3,352	270	3,622	12	24,971	—	—	24,971
Currant (incl. Carina)	1,302	87	1,387	43	174	15,383	13	15,570
Grenache	2,246	9	2,255	58	29,427	—	109	29,536
Mataro	666	—	666	11	7,728	—	28	7,756
Pinot Noir	525	261	785	1	3,957	—	—	3,957
Shiraz	4,819	86	4,904	79	48,069	—	15	48,083
Other red grapes	2,854	507	3,365	106	10,744	36	11,450	22,232
Total red grapes	*15,764*	*1,220*	*16,984*	*310*	*125,070*	*15,419*	*11,615*	*152,105*
White grapes—								
Chardonnay	2,344	634	2,978	12	20,637	—	2	20,638
Doradillo	1,022	4	1,025	64	21,396	—	25	21,421
Muscat Blanc	493	16	509	19	5,618	—	44	5,662
Muscat Gordo Blanco	3,887	154	4,041	103	63,650	6,875	623	71,147
Palomino and Pedro Ximenes	1,372	14	1,385	83	21,924	—	6	21,930
Rhine Riesling	3,658	45	3,703	51	30,591	—	—	30,591
Semillon	2,447	126	2,573	19	37,004	—	—	37,004
Sultana	15,733	475	16,209	221	53,327	265,603	24,330	343,260
Waltham Cross	1,170	18	1,188	59	5,361	4,613	4,474	14,449
Other white grapes	5,718	463	6,182	158	75,570	102	4,782	80,454
Total white grapes	*37,844*	*1,949*	*39,793*	*789*	*335,078*	*277,193*	*34,286*	*646,558*
Total grapes	**53,608**	**3,169**	**56,777**	**1,099**	**460,148**	**292,609**	**45,902**	**798,659**

(a) Varietal data not collected in Northern Territory and the Australian Capital Territory.

DRIED VINE FRUIT: PRODUCTION, EXPORTS AND CONSUMPTION
(dried weight)

	Production				*Exports*				
							Total		
Year	*Raisins*	*Sultanas*	*Currants*	*Total*	*Raisins/ sultanas*	*Currants*	*Quantity*	*Value f.o.b.*	*Consumption of dried vine fruit*
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	$m	kg
1982–83	3.9	64.9	4.7	73.4	57.1	2.4	59.5	59.7	1.9
1983–84	1.4	69.0	4.6	75.0	51.6	0.9	52.5	54.1	1.7
1984–85	2.1	60.1	5.7	67.8	61.5	1.0	62.4	58.0	2.3
1985–86	5.2	72.9	6.3	84.4	48.4	2.9	51.3	71.3	2.3
1986–87	1.9	58.8	5.2	65.9	54.5	2.3	56.8	96.5	1.9
1987–88	2.3	55.4	2.8	60.6	43.0	0.7	43.7	80.5	n.a.

Wine industry

Australia produces a wide range of wine and brandy products. Over the past twenty years there has been a distinct trend towards greater production and consumption of unfortified or table wines. In the twelve months ending June 1987 sales of table wine accounted for nearly 78 per cent of all sales of Australian wine. The large growth in table wine sales has been principally due to the successful marketing of wine in 'casks' (usually fibreboard, box-shaped, 4 litre containers equipped with dispensing faucets).

While imports of wine are relatively insignificant (7.8 million litres in 1987–88), exports are becoming increasingly important and now account for 9.8 per cent of production. Legislation reconstructing the Australian Wine and Brandy Corporation as the body responsible for the control of the export trade in wine, brandy and grape spirit products was enacted in June 1986. The Corporation has the power to regulate exports as well as organise promotion and publicity functions in export markets and in Australia.

PRODUCTION, CONSUMPTION AND EXPORT OF WINES

Year	*Production*	*Exports*		*Consumption in Australia per capita*
		Quantity	*Value f.o.b.*	
	mil. litres	mil. litres	$m	litres
1982–83	340	8.0	13.4	19.7
1983–84	396	9.0	16.8	20.4
1984–85	451	8.8	17.4	21.3
1985–86	389	10.9	21.3	21.6
1986–87	372	21.2	44.6	21.0
1987–88	403	39.4	98.7	20.9

For further details on viticulture, dried vine fruit, wine, etc. *see* the following publications: *Fruit, Australia* (7322.0) (ceased 1986–87), *Summary of Crops, Australia* (733.0) (first issue 1987–88), *Sales and Stocks of Australian Wine and Brandy* (8504.0) and *Viticulture, Australia* (7310.0).

Fodder crops

As well as crops specifically for grain, considerable areas of Australia are devoted to fodder crops. These crops are utilised either for grazing (as green feed), or conserved as hay, ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the seasonal and comparatively unreliable nature of rainfall in Australian agricultural areas.

FODDER CROPS: AREA AND PRODUCTION

Year	*Hay (a)*			*Green feed or silage (b)*	
		Production			
	Area	*Quantity*	*Gross value*	*Area*	*Silage made*
	'000 ha	'000 tonnes	$m	'000 ha	'000 tonnes
1982–83	408	907	100.6	1,292	301
1983–84	377	1,269	99.5	896	698
1984–85	258	848	60.3	876	502
1985–86	252	773	64.5	1,005	620
1986–87	306	942	72.9	1,191	679
1987–88	344	1,003	78.0	1,313	878

(a) Principally oaten and wheaten hay. (b) Principally from oats, barley, wheat and forage sorghum.

Lupins

Lupins are grown primarily as a grain crop, but grazing of standing crops and stubble is also an important use. Because of their high protein content, lupins are becoming increasingly important in livestock feed and for human consumption, particularly in some of the Asian countries.

There has been a significant expansion of lupin production in recent years, particularly in Western Australia which is the major producer and exporter of lupins. Smaller quantities are also grown in New South Wales, Victoria and South Australia mainly for domestic use.

FARMSTOCKS OF CEREAL GRAINS, HAY AND SILAGE
('000 tonnes)

	Cereal grains				
At 31 March	*Barley*	*Oats*	*Wheat*	*Hay*	*Silage*
1983	506	711	970	2,983	333
1984	627	1,705	1,021	6,789	642
1985	684	1,479	910	5,872	697
1986	872	1,403	1,185	5,555	851
1987	729	1,406	1,045	5,783	817
1988	693	1,366	962	4,970	757

Tobacco

Tobacco is a summer-growing annual which requires a temperate to tropical climate, adequate soil moisture and a frost-free period of approximately five months. In Australia, all tobacco is grown under irrigation. Because of specialised requirements, production is limited to areas with suitable soils and climate. The main centres of production are the Mareeba–Dimbulah districts of north Queensland and Myrtleford in north-eastern Victoria. Other areas where tobacco is grown include Bundaberg, Beerwah and Texas (Queensland) and Yetman and Coraki (New South Wales). All tobacco grown in Australia is of the flue-cured type except for small quantities of burley tobacco produced mainly in Victoria.

TOBACCO: AREA, PRODUCTION AND OVERSEAS TRADE

			Exports (value f.o.b.)		*Imports (value)*	
Year	*Area*	*Production (dried leaf)*	*Unmanufactured*	*Manufactured*	*Unmanufactured*	*Manufactured*
	'000 ha	'000 tonnes	$'000	$'000	$'000	$'000
1981–82	6.6	13.3	2,080	8,551	46,268	23,187
1982–83	6.7	13.4	4,835	9,667	52,916	30,420
1983–84	6.5	14.4	2,434	12,172	58,939	31,425
1984–85	5.4	12.5	110	14,545	59,789	27,692
1985–86	4.7	10.7	158	15,021	64,495	33,197
1986–87	5.1	12.2	149	17,157	82,523	33,617
1987–88	5.0	13.0	251	12,424	75,520	40,620

Marketing

In 1965 the Commonwealth and State Governments agreed to a stabilisation plan which provided for an annual Australian tobacco leaf marketing quota of flue-cured tobacco and a guaranteed minimum average reserve price. The plan is administered by the Australian Tobacco Board, constituted under the *Tobacco Marketing Act 1965*, and is composed of representatives of the Commonwealth Government, tobacco-growing States, growers and manufacturers.

Following a review by the Industries Assistance Commission of the tobacco industry in 1982, the Government announced a new 5-year stabilisation scheme which began in 1984. The new scheme is designed to rationalise marketing arrangements in the industry. The scheme provides that the annual tobacco leaf quotas are adjusted in line with consumption, that manufacturers' stocks are reduced to a level equivalent to 13 months' consumption by 1988, and that prices be adjusted so as to significantly reduce the gap between Australian and world prices by 1990.

Livestock

Since 1861, annual enumerations of livestock have been made, based with few exceptions on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia at ten-yearly intervals from 1861 to 1971, and then from 1981 on by single years, are given in the following table.

LIVESTOCK, AUSTRALIA
('000)

Year	*Cattle*	*Sheep*	*Pigs*	*Year*	*Cattle*	*Sheep*	*Pigs*
1861	3,958	20,135	351	1961	17,332	152,579	1,615
1871	4,276	41,594	543	1971	24,373	177,792	2,590
1881	7,527	62,184	816	1981	25,168	134,407	2,430
1891	10,300	97,881	891	1982	24,553	137,976	2,373
1901	8,640	70,603	950	1983	22,478	133,237	2,490
1911	11,745	98,066	1,026	1984	22,161	139,242	2,527
1921	13,500	81,796	674	1985	22,738	149,747	2,512
1931	11,721	110,568	1,072	1986	23,436	155,561	2,553
1941	13,256	122,694	1,797	1987	21,915	149,157	2,611
1951	15,229	115,596	1,134	1988	21,851	152,443	2,706

While livestock numbers (particularly sheep) have increased substantially since 1861, marked fluctuations have taken place during the period, mainly on account of widespread droughts which have from time to time left their impressions on the pastoral history of Australia.

Australia has suffered ten major widespread droughts since the keeping of rainfall records began:

1864–1866 All States were affected except Tasmania.

1880–1886 Southern and eastern mainland States were affected.

1888 All States were hit except Western Australia.

1895–1903 This drought, one of the worst on record, halved Australia's sheep population (originally 100 million) and cut cattle numbers (12 million) by 40 per cent.

1911–1916 Wheat crops were affected in most States, sheep numbers declined by 19 million and cattle by 2 million.

1918–1920 During this period, parts of Western Australia were the only areas completely free from drought.

1939–1945 This prolonged drought affected crops and/or pastoral areas in all States. Sheep numbers fell from 125 million in 1942 to 96 million in 1945.

1965–1967 This drought, in its impact on Queensland, New South Wales and Victoria, ranked with the 1902 drought as one of the most severe on record. It resulted in a 40 per cent drop in the wheat harvest, a loss of 20 million sheep, and a decrease in farm income of $300–500 million. There was a chain reaction to other industries, with heavy losses being suffered by manufacturers of farm machinery and the New South Wales Railways. Effects of the drought were worsened by water rationing in irrigation areas.

1972 Widespread drought occurred throughout Australia.

Much of eastern Australia experienced one of the worst droughts on record in 1982 and early 1983. Widespread and soaking rains during the autumn months of 1983 greatly alleviated the situation and most areas received further good rains during 1983–84. However, 1985 saw the return of light and variable rainfall conditions. In July 1985, much of New South Wales and western Queensland had again been drought declared and regional areas of concern were notified in western Victoria, parts of South Australia and Western Australia, and much of the Northern Territory. Good rains during August 1985 relieved much of this problem.

For further details of droughts in Australia *see* the special article at the end of Chapter 16 in *Year Book* No. 71.

The years in which the numbers of livestock attained their peaks are as follows: cattle, 1976 (33,434,000); sheep, 1970 (180,080,000); and pigs, 1973 (3,259,000).

Cattle

Cattle-raising is carried out in all States, the main object in certain districts being the production of stock suitable for slaughtering purposes and in others the raising of dairy herds. While dairy cattle are restricted mainly to southern and to coastal districts, beef cattle are more widely distributed. Cattle numbers in Australia increased slowly during the 1960's and 1970s, despite seasonal changes and heavy slaughterings, to a peak of 33.4 million in 1976. There was a continuous decline, aggravated by drought conditions, to 22.2 million in 1984. Improved seasonal conditions and higher export prices in 1984 encouraged producers to commence rebuilding herds and numbers increased to 23.4 million in 1986.

Beef cattle production is often combined with cropping, dairying and sheep. In the north (north of the 26th parallel), cattle properties and herd size are very large, pastures are generally unimproved, fodder crops are rare and beef is usually the only product. The industry is more intensive in the south because of the more favourable environment including more improved pasture.

For further details on cattle, *see Livestock and Livestock Products, Australia* (7221.0).

CATTLE NUMBERS, BY AGE, SEX, PURPOSE
('000)

	31 March—					
Classification	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Milk cattle—						
Bulls used or intended for service	47	46	45	43	37	36
Cows, heifers and heifer calves	2,642	2,693	2,697	2,655	2,561	2,507
House cows and heifers	69	66	63	61	41	38
Total	*2,757*	*2,805*	*2,806*	*2,759*	*2,639*	*2,581*
Meat cattle—						
Bulls used or intended for service	499	498	524	554	513	528
Cows and heifers (1 year and over)	9,929	9,964	10,274	10,626	9,795	9,818
Calves under 1 year	4,644	4,455	4,897	5,010	4,738	4,716
Other cattle (1 year and over)	4,649	4,438	4,282	4,487	4,230	4,207
Total	*19,721*	*19,356*	*19,978*	*20,678*	*19,276*	*19,270*
Total, all cattle	**22,478**	**22,161**	**22,784**	**23,436**	**21,915**	**21,851**

CATTLE NUMBERS
('000)

31 March	NSW	Vic.	Qld	SA	WA	Tas.	NT	Aust. (incl. ACT)
1983	5,018	3,408	9,349	828	1,754	562	1,548	22,478
1984	5,036	3,487	9,154	813	1,730	542	1,390	22,161
1985	5,226	3,576	9,413	846	1,673	554	1,484	22,784
1986	5,409	3,720	9,662	914	1,690	570	1,458	23,436
1987	4,868	3,478	9,012	912	1,659	535	1,439	21,915
1988	4,962	3,474	8,825	947	1,705	542	1,385	21,851

Sheep

With the exception of a short period in the early 1860s, when the flocks in Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep raising. Western Australia is the second largest sheep raising State, followed by Victoria. Sheep numbers reached a peak of 180.0 million in Australia in 1970. They then declined rapidly up to March 1973 as producers turned off large numbers for slaughter and moved from wool-growing towards grain and beef production. By 1975, the numbers had again increased to 151.7 million, but in March 1978 the numbers had fallen to 131.4 million, the lowest since 1955. Improved seasonal conditions during 1978 and 1979 enabled producers to begin rebuilding their flocks. By March 1980, numbers had risen to 136.0 million. Subsequently, high levels of drought-induced slaughter led to a decline in numbers to 134.4 million by March 1981. Numbers rose to 138.0 million in March 1982 with improved seasonal conditions and the attractiveness of sheep enterprises relative to cattle contributing to the growth in numbers. Subsequently, drought conditions saw the flock reduce to 133.2 million in March 1983. The increase in flock numbers to 139.2 million in March 1984 reflects flock rebuilding by producers in response to favourable seasonal conditions beginning in the autumn of 1983, improved lambing rates, and a favourable outlook for wool and live sheep enterprises. This trend continued and, in March 1989, flock numbers reached 152.4 million.

SHEEP NUMBERS
(millions)

31 March	NSW	Vic.	Qld	SA	WA	Tas.	Aust. (incl. NT, ACT)
1983	48.1	22.7	12.2	15.4	30.2	4.5	133.2
1984	51.0	24.6	13.0	16.4	29.5	4.6	139.2
1985	55.5	26.5	14.0	17.3	31.6	4.8	149.7
1986	58.0	26.9	14.3	17.9	33.2	5.1	155.6
1987	52.2	26.6	14.6	17.2	33.5	5.0	149.2
1988	54.9	27.0	14.4	17.4	34.0	4.7	152.4

SHEEP, BY AGE AND SEX
(millions)

31 March	Sheep: 1 year and over				Lambs and hoggets (under 1 year)	Total, sheep and lambs
	Rams	Breeding ewes	Other ewes	Wethers		
1983	1.7	65.6	5.5	28.8	31.6	133.2
1984	1.7	70.3	4.9	30.5	31.8	139.2
1985	1.8	71.0	5.4	33.3	38.3	149.7
1986	1.8	72.1	6.6	38.7	36.3	155.6
1987	1.7	72.1	4.2	37.5	33.6	149.2
1988	1.7	71.6	4.3	39.1	35.7	152.4

The combined value of wool and sheep slaughtered during 1987–88 is estimated at 31.4 per cent of the gross value of agricultural commodities. This proportion varies with wool and meat prices and seasonal conditions. Australia has about 14 per cent of the world's woolled sheep but produces around 29 per cent of the world's greasy wool output. In addition, in the year ended 30 June 1988 the sheep industry produced 586,000 tonnes of mutton and lamb. Exports of live sheep for slaughter during the same period totalled 6.9 million head, with Kuwait and Saudi Arabia accounting for 66 per cent of the total.

LAMBING

Year ended 31 March	*Season*	*Number of breeding ewes at start of season*	*Mating intentions at start of season*	*Actual matings*	*Ratio of actual matings to intended matings*	*Lambs marked*	*Ratio of lambs marked to actual matings*	*Ratio of lambs marked to breeding ewes*
		million	million	million	%	million	%	%
1983	1982–83	68.5	64.6	60.9	94	45.4	74	66
1984	1983–84	65.6	58.9	58.5	99	44.5	76	68
1985	1984–85	70.3	65.9	63.5	96	51.9	82	74
1986	1985–86	71.0	65.3	62.8	96	49.8	79	70
1987	1986–87	68.0	64.3	60.8	95	47.3	78	69
1988	1987–88	72.1	65.5	60.9	93	49.2	81	68

Pigs

Over the past 30 years there have been significant changes to the structure of the Australian pig industry. Initially, pigs were raised as part of a dairying operation where there were abundant supplies of liquid skim milk. Today, however, with introduction of factory separation of milk and cream, coupled with the low grain prices of the 1960s, pig raising has become more and more associated with grain production.

In addition there has been a major move away from the so called extensive method of pig raising to the intensive conditions that apply today. This has meant an increase in the capital investment in the industry and a greater degree of specialisation in pig raising. The average pig production unit today would be based on approximately 300 sows with feeds being almost exclusively grain based. While the number of sows in Australia has remained fairly constant the number of pig farmers has decreased.

PIGS NUMBERS
('000)

31 March	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (incl. NT, ACT)*
1983	794	387	551	405	300	51	2,490
1984	799	404	556	417	300	48	2,527
1985	814	410	563	402	274	47	2,512
1986	798	432	585	414	278	45	2,553
1987	830	432	579	422	295	46	2,611
1988	853	437	617	441	307	48	2,706

Poultry

The commercial poultry industry comprising hatcheryworkers, egg producers and broiler growers is highly specialised, although a proportion of production comes from 'backyard' egg producers, roughly estimated at from 20 to 25 per cent of the total. There are also separate research schemes funded jointly by industry and government for the egg and meat chicken industries but close liaison exists. Both sectors are good examples of specialised, large scale, capital-intensive production.

POULTRY NUMBERS (a)
('000)

	Chickens			*Other poultry*			
31 March	*Hens and pullets for egg production*	*Meat strain chickens (broilers)*	*Total chickens (b)*	*Ducks*	*Turkeys*	*Other poultry*	*Total all poultry*
1983	15,532	30,296	48,389	294	467	243	49,393
1984	14,075	31,318	47,529	370	535	239	48,673
1985	13,497	33,761	50,109	219	653	293	51,273
1986	13,752	35,619	51,807	288	580	378	53,053
1987	13,506	39,187	55,579	350	1,249	430	57,608
1988	13,463	47,988	64,201	663	1,585	365	66,813

(a) Data are for numbers of poultry on agricultural establishments as reported in the annual Agricultural Census. *(b)* Includes breeding stock and data not available for separate publication.

For further details on pigs and poultry *see* publication *Livestock and Livestock Products, Australia* (7221.0).

Meat Production, Slaughterings and Other Disposals

The ABS collects details of slaughterings and meat production from abattoirs, commercial poultry and other slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers. The data relate only to slaughterings for human consumption and do not include animals condemned or those killed for boiling down.

PRODUCTION OF MEAT BY TYPE (a)
('000 tonnes)

	Carcass weight						*Dressed weight (b)(c)*	
Year	*Beef*	*Veal*	*Mutton*	*Lamb*	*Pig meat*	*Total meat*	*Chickens*	*Total all poultry (d)*
1982–83	1,482	61	250	280	239	2,313	283	314
1983–84	1,303	42	169	296	253	2,064	272	298
1984–85	1,271	39	215	301	260	2,086	315	345
1985–86	1,344	41	258	320	269	2,232	334	367
1986–87	1,469	39	285	297	282	2,373	345	384
1987–88	1,537	39	295	294	297	2,462	(e)362	396

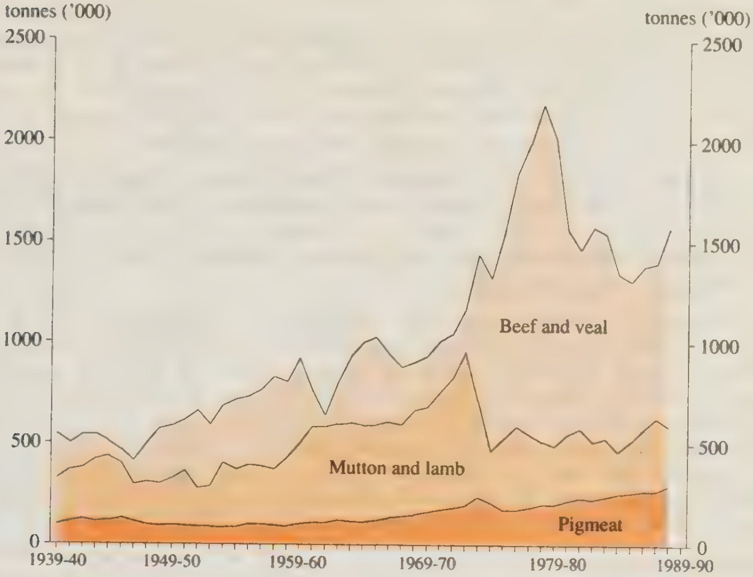
(a) Excludes offal. *(b)* Excludes the Northern Territory and the Australian Capital Territory. *(c)* Dressed weight of whole birds, pieces and giblets. *(d)* Includes other fowls, turkeys, ducks and drakes. *(e)* Excludes Tasmania.

NUMBERS OF LIVESTOCK AND POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION
(million head)

Year	*Cattle*	*Calves*	*Sheep*	*Lambs*	*Pigs*	*Chickens (a)*	*Other fowls (b) and turkeys*	*Ducks and drakes*
1981–82	7.2	1.5	11.9	16.3	4.1	205.9	10.0	2.0
1982–83	7.4	1.7	13.1	16.9	4.2	226.2	10.9	1.9
1983–84	6.0	1.3	8.4	17.1	4.4	216.2	10.2	1.7
1984–85	5.8	1.2	10.5	17.5	4.5	244.2	10.7	2.1
1985–86	6.2	1.2	12.9	19.1	4.5	258.3	11.8	2.3
1986–87	6.7	1.2	14.5	17.7	4.7	269.3	11.2	2.1
1987–88	6.9	1.2	15.0	17.2	4.9	(c)274.0	10.4	2.1

(a) Comprises broilers, fryers and roasters. *(b)* Comprises hens, roosters, etc. *(c)* Excludes Tasmania.

PRODUCTION OF MEAT, AUSTRALIA
1939-40 to 1987-88



Mutton and lamb

Production of sheepmeats in Australia is closely associated with the wool industry. Sheep grazing often occurs on mixed farms in conjunction with beef and/or grain enterprises and in some areas producers specialise in lamb production. The supply of sheepmeat depends greatly on seasonal conditions, decisions to build up or reduce flock numbers, expectations of wool prices, live sheep exports and the pattern of domestic consumption of meat.

There was a movement out of sheep raising in Australia early in the 1970s, principally as a result of low wool prices, and many producers diversified into cattle and grains. Flock numbers declined from a peak of 180.0 million in 1970 to a low of 131.0 million by 1978. After 1978, wool and sheepmeat prices improved and the trade in live sheep for slaughter overseas continued to expand. As a result, the national flock size increased slightly to 136.0 million by March 1980. Since March 1980, flock numbers have fluctuated as a result of climatic and market conditions peaking at 138.0 million in March 1982, before dropping to 133.2 million in March 1983. Total Australian sheep flock in March 1988 was 152 million head.

Sheepmeat production declined rapidly from the high levels of the early 1970s, which were associated with flock reduction, to annual levels of between 400,000 and 600,000 tonnes from 1973–74. Lamb production declined from a peak of 316,000 tonnes in 1985–86 to 293,000 in 1987–88, while mutton production has varied between 230,000 and 300,000 tonnes in recent years until 1983–84, when it declined to 169,000 tonnes. Production increased to 293,000 tonnes in 1987–88.

A high proportion of lamb is consumed in Australia with per capita consumption remaining steady at about 14–16 kilograms per year. A high proportion of mutton produced is exported. Australia is the world's largest exporter of mutton, with Japan and the Middle East being the main markets.

Beef and veal

The cattle industry is very dependent on international trade in beef and is subject to great fluctuations. Over half of Australia's beef and veal production is exported, with the United States and Japan the main outlets.

Beef and veal production in Australia rose markedly in the 1970s, reaching peak levels of over 2.0 million tonnes in 1977–78 and 1978–79, but declining to 1.3 million tonnes in 1984–85. The increase in production followed the rapid expansion of the beef herd that had occurred during the late 1960s and early 1970s mainly in response to relatively profitable beef prices and increased demand from overseas markets.

In the mid 1970s, poor economic conditions and heavy domestic supplies of beef in major importing countries led them to impose severe restrictions on their imports. With reduced international demand and heavy supplies in Australia, saleyard prices fell greatly and remained low for about four years. The depressed conditions were accompanied by a severe reduction in the national herd.

Improved seasonal conditions during 1983, accompanied by strengthening overseas demand, resulted in a move towards herd rebuilding. However, the high level of drought-induced slaughterings during 1982 had reduced the breeding herd base implying very slow herd expansion until 1986. Higher slaughtering in 1987–88 was due to record beef prices in the US and a larger than expected number of tenders in Japan. Current projections by the Australian Meat and Livestock Corporation (AMLC) indicate that cattle numbers will slowly increase over the next few years. While slaughtering and production will fall slightly in the short term during the rebuilding process, numbers should expand to 25.5 million by 1992 implying a production increase of over 100,000 tonnes on 1987–88.

Of historical significance to the beef industry in 1988 was the opening of the Japanese and Korean beef markets which will provide substantial opportunities to increase beef exports in the coming years.

Pigmeat

Significant changes have taken place in the pig producing industry in recent years. Capital investment and corporate takeovers have seen the emergence of a few large companies producing 30 per cent of all pigs sold in Australia. These moves on top of the trend to more intensive and efficient production techniques have seen pigmeat production rise steadily since 1982 to reach 285,000 tonnes in 1987–88. In addition, there has been an increase in the slaughter weights of pigs reflecting the demands of the fresh pork trade. It is believed that about 60 per cent of production is processed into bacon, hams and smallgoods, with the rest sold as fresh pork. Less than 2 per cent of the industry's output is exported. The increasing production of pigmeat therefore reflects a steady increase in per capita domestic consumption over the past three years.

In recent years a small but useful market for the meat of feral pigs has been established in Europe.

Prices paid for pigs at auction have varied quite markedly in recent years. Profitability in the industry may be eroded in the coming year due to higher feed grain prices (*see* Australian Bureau of Agricultural and Resource Economics forecast, *Quarterly Review of the Rural Economy* Volume 10 Number 2.

Poultry meat

The poultry meat industry developed rapidly in the 1970s with both output and consumption rising steeply, although in recent years production has exceeded demand and excess production capacity in the industry continues. Genetic and technical improvements and the organisation of the industry into large-scale enterprises have raised efficiency and helped to reduce production costs relative to other meats. The price competitiveness of chicken meat compared with other meats, especially beef, continues to improve, consolidating the position of poultry meat as the second most important meat after beef in Australian diets.

EXPORTS OR FRESH, CHILLED OR FROZEN MEAT(a)
'000 tonnes

	Beef(b)(c)		*Veal(b)*		*Mutton(b)*		*Lamb*		
	Bone-in	*Bone-out*	*Bone-in*	*Bone-out*	*Bone-in*	*Bone-out*	*Bone-in*	*Bone-out*	*Pork*
1983–84	28.7	419.4	1.2	2.3	26.5	32.1	30.2	1.5	2.0
1984–85	10.5	395.8	1.6	3.6	21.6	38.1	26.3	1.4	3.2
1985–86	4.8	466.3	2.2	3.7	38.0	51.8	47.8	2.1	2.8
1986–87	4.6	555.3	2.1	3.5	49.9	57.9	53.7	1.5	3.9
1987–88	11.2	624.0	1.2	5.0	47.3	61.2	48.9	2.5	8.2

(a) Excludes offal. *(b)* Factors can be applied to beef, veal, mutton and lamb bone-out figures to derive bone-in carcass weight which, when added to bone-in figures, shows total exports in carcass weight. The factor for beef and veal is 1.5 and that for mutton and lamb 2.0 (Source: Australian Meat and Livestock Corporation). *(c)* Includes buffalo meat.

GROSS VALUE OF LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS (a)
($ million)

Year	*Cattle and calves*	*Sheep and lambs*	*Pigs*	*Poultry*	*Total*
1982–83	2,076.2	548.0	414.9	412.7	3,451.8
1983–84	2,118.0	585.0	375.5	430.2	3,508.6
1984–85	2,253.2	576.1	438.1	512.6	*(b)*3,783.3
1985–86	2,367.3	531.6	438.3	559.1	3,896.4
1986–87	2,819.7	721.2	468.5	601.7	4,611.0
1987–88	3,057.0	803.9	536.1	671.2	*(b)*5,074.3

(a) Includes adjustment for net exports of live animals. *(b)* Includes goats.

Consumption

The methodology for calculating meat consumption has been revised for the years 1975–76 to 1983–84 and is now shown purely in carcass weight equivalent terms. Canned meat as such is not available. Carcass weight is defined as ex abattoir (i.e. bone-in). Owing to diverse cutting practices by butchers and the difficulty in clearly defining 'retail weight of meat' it is considered impractical to derive a factor for the purpose of expressing estimated meat consumption in terms of retail weight. (Estimates of retail weight as a percentage of carcass weight range from 70 per cent for beef, 80 to 85 per cent for lamb and 80 per cent for pork.)

APPARENT CONSUMPTION OF MEAT AND MEAT PRODUCTS AS HUMAN FOOD

Year	*Beef and veal*	*Mutton*	*Lamb*	*Pigmeat (a)*	*Offal*	*Total meat*	*Poultry meat*
			TOTAL ('000 tonnes)				
1982–83	701	68	247	233	67	1,316	311
1983–84	654	81	261	254	53	1,303	309
1984–85	660	104	267	256	44	1,331	341
1985–86	656	113	268	269	43	1,349	365
1986–87	635	118	241	270	55	1,319	378
1987–88	660	104	267	256	44	1,331	341
			PER CAPITA PER YEAR (kg)				
1982–83	45.9	4.5	16.2	15.3	4.4	86.1	20.3
1983–84	42.3	5.2	16.9	16.4	3.4	84.3	20.0
1984–85	42.1	6.6	17.0	16.4	2.8	85.0	21.8
1985–86	41.4	7.1	16.9	17.0	2.7	85.0	23.0
1986–87	39.4	7.4	15.0	16.8	3.4	82.0	23.5
1987–88	42.1	6.6	17.0	16.4	2.8	85.0	21.8

(a) Includes pigmeat products such as bacon and ham.

NOTE: Beef, veal, mutton, lamb, pigmeat and offal are expressed in terms of carcass weight, and poultry meat in dressed weight.

For further details on meat production and slaughtering *see* the following publications: *Livestock and Livestock Products, Australia* (7221.0), *Value of Agricultural Commodities Produced, Australia* (7503.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

Australia Meat and Livestock Corporation—AMLC

Legislation was enacted to establish the AMLC from 1 December 1977. The Corporation, which regulates and promotes the export of both meat and livestock and the promotion of domestic consumption, replaced the Australian Meat Board.

In mid 1984 the Australian Government introduced measures to restructure the administration of the Australian livestock and meat industry. Legislation enacted at the time, or foreshadowed, had three primary components:

- a restructured AMLC;
- establishment of the Australian Meat & Livestock Industry Policy Council (AMLIPC);
- the foreshadowed replacement of the Australian Meat Research Committee (AMRC) with an incorporated body called the Australian Meat and Livestock Research and Development Corporation (AMLRDC).

The AMLC has the power to trade in meat and livestock in a manner which accords with adopted policy and with normal commercial practice. its power is also extended to engaging in sole trading or to permitting restricted trading by a specified holder or holders of meat or livestock licences. The exercise of this sole or restricted trading power is limited to circumstances where: a monopoly buying power is, in the AMLC's opinion, distorting normal market forces; such action is necessary or desirable to ensure that producers receive a fair return for the meat or livestock exported to that market; the exercise of sole trading powers would be beneficial for the further development of that market; the exercise of sole trading powers would be in the best commercial interests of the industry.

In order to foster consultation, the AMLC may, for the purposes of considering any matter relating to the performance of its functions, make arrangements for consulting persons and bodies representative of different sectors of the industry.

The AMLC's main functions are to:

- improve the production of meat and livestock in Australia;
- encourage and promote the consumption and sale of Australian meat, and the sale of Australian livestock, both in Australia and overseas;
- encourage, assist, promote and control the export of meat and livestock from Australia.

Exporters of meat and livestock are licensed by the AMLC and have to comply with its requirements in relation to export trading. The AMLC assists exporters in overseas market development and conducts meat promotion activities in Australia and abroad. It has authority also, to perform a wide range of other functions aimed at improving the production of meat and livestock for the general benefit of the meat and livestock industry.

Two bodies have been established within AMLC to undertake major programs for the meat and livestock industry. These are the Authority for Uniform Specification of Meat and Livestock (AUSMEAT), which is developing and implementing a meat and livestock description language, and Computer Aided Livestock Marketing (CALM) which is conducting livestock sales by computer.

Australian Meat and Livestock Industry Policy Council—AMLIPC

The legislation referred to above established a new statutory body, the AMLIPC, to relieve the AMLC of responsibility for the examination of all broad industry policy issues. It is intended that AMLIPC:

- facilitate the participation of industry in the development and formulation of industry policies;
- provide a forum of consensus, building between different sectoral interests within the industry;
- provide opportunities, through AMLIPC Working Groups, for all interested parties to work together on the factual examination of industry problems, and to present practical proposals to government for their solution.

Wool

The Australian Sheep Flock contains nearly 12 per cent of the world's sheep and produces over 30 per cent of the total annual production of wool. This is largely due to the more than 80 per cent of Australian sheep which are pure Merino and raised primarily for their heavy fleeces of fine quality wool.

Wool production

Wool as shorn from the sheep ('greasy wool') contains an appreciable amount of grease, dirt, vegetable matter and other extraneous material other than the clean wool fibre. The exact quantities of these impurities in the fleece vary between countries, differing climatic and pastoral conditions, with seasonal fluctuations and with the breed and condition of the sheep. It is, however, the clean wool fibre that is ultimately consumed by the textile industry and the term 'clean yield' is used to express the net wool fibre content present in greasy wool.

Since the 1946–47 season, the average clean yield of Australian wool has been assessed annually. In the early years, the average clean yield was assessed on the basis of a small number of tests and subjective appraisal. However, in recent years the Australian Wool Corporation has calculated the clip average yield on the basis of laboratory tests of yield applied to nearly all wool offered for sale at auction in Australia. It was 64.31 per cent in 1985–86.

Wool scoured and carbonised in Australia before export, however, has a somewhat lower clean yield than the whole clip, less so now than in past years. Much of scoured wool is now drawn from high yielding fleece types. The quantity of scoured and carbonised wool exported during 1985–86 was about 16 per cent of total raw wool exports in greasy terms. For the clean yield of Australian scoured wools exported, a standard factor of 93 per cent has been adopted.

SHEARING, WOOL PRODUCTION AND VALUE

			Wool production			
					Total wool	
Year	*Sheep and lambs shorn*	*Average fleece weight*	*Shorn wool*	*Other wool (a)*	*Quantity*	*Gross value (b)*
	million	kg	'000 tonnes	'000 tonnes	'000 tonnes	$m
1982–83	149.1	4.30	641.5	60.2	701.7	1,761
1983–84	152.6	4.40	671.2	56.4	727.6	2,016
1984–85	168.2	4.48	752.7	61.6	814.3	2,434
1985–86	173.8	4.39	762.1	67.9	830.0	2,693
1986–87	179.8	4.53	813.7	73.2	886.9	3,338
1987–88	186.1	4.53	842.7	71.3	914.1	5,517

(a) Comprises dead and fellmongered wool, and wool exported on skins. *(b)* Gross value is based, for shorn wool, upon the average price realised for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.

The wool market

The primary raw wool market in Australia is at public auctions where brokers, acting on behalf of woolgrowers, receive wool into store, and arrange sampling for measurement of the main, variable physical characteristics. The wool is then offered for sale at a rostered auction. Some 80 per cent or more of the clip is normally marketed this way, the remainder being sold privately at transaction prices agreed between the grower and a buyer.

The Australian Wool Corporation, on behalf of all growers, operates a minimum price support scheme at public auction sales.

Wool receivals

TAXABLE WOOL RECEIVALS

	Receivals				
Year	*Brokers (NCWSB)*	*Dealers (a)*	*Brokers and dealers*	*Dealers as per cent of total receivals*	*Shorn wool production (b)*
		—'000 tonnes—		per cent	'000 tonnes
1982–83	509.6	141.2	650.8	21.7	641.5
1983–84	535.5	152.9	688.4	22.2	671.2
1984–85	588.3	164.0	752.2	21.8	752.7
1985–86	599.2	167.6	766.8	21.9	762.1
1986–87	627.5	187.5	815.0	23.0	696.2
1987–88	657.6	185.5	843.1	22.0	842.7

(a) includes brokers who are not members of the National Council of Wool Selling Brokers of Australia (NCWSB). *(b)* Obtained from the annual Agricultural Census.

Under the terms of the Wool Tax Acts, all growers pay a tax on the gross value of shorn wool sales, to provide financial backing for wool promotion, research and the operation of a statutory Reserve Price Scheme. The ABS collects details of the total amounts of taxable wool received by wool selling brokers and dealers each year. These figures exclude wool received by brokers on which tax had already been paid by other dealers (private buyers) or brokers.

Wool marketing arrangements

The Australian Wool Corporation is a Commonwealth statutory authority, established at the request of the nation's woolgrowers to undertake a number of functions on their behalf, principally to stimulate the demand for Australian wool. Most important among these functions are the Reserve Price Scheme in the raw wool market, and comprehensive global wool promotion programs, and a broad programme of Research and Development.

The Reserve Price Scheme was introduced to the market in 1970 and seeks to provide a measure of wool price stability, in Australian dollar terms, to the benefit of the industry.

A Minimum Price for each wool type is established at the commencement of each wool selling season (financial year). Any wool which fails to attract bids equal to or higher than this minimum is purchased by the Corporation at that price and held until demand improves. As well, when the market is trading above these minimum price levels, the Corporation may intervene in the market with the aim of providing market stability. This may be needed, for instance, when there is exchange rate uncertainty or when the market enters a cycle of volatile price change. Finance for the operation of the Reserve Price Scheme is provided by growers, through a compulsory Wool Tax.

The Australian Wool Corporation has a number of other responsibilities which include: supervision of the industry's comprehensive research programs; establishing, monitoring and when necessary enforcing industry agreed clip preparation standards; shearer training; and encouraging efficiency within the sphere of wool handling and transport. It also operates extensive commercial storage facilities on the industry's behalf.

Wool testing

The Australian Wool Testing Authority came into existence in 1957 but its role became more prominent with the introduction, in 1971, of wool valuation techniques relying on objective specification of wool's main physical characteristics. From the first sales of wool in this manner in the early 1970s, this technique has achieved universal acceptance and now 99 per cent of all wool sold at auction is accompanied by certified measurements for yield, (i.e. the amount and type of clean wool fibre), average fibre diameter and the percentage and type of vegetable fault.

During 1986–87, commercial testing commenced for the additional characteristics of staple length and strength. In 1988–89 almost 20 per cent of all combing wool sold at auction was accompanied by these measurements and this figure is expected to approach 50 per cent of the offering in 1989–90.

At the direction of the Commonwealth Government, the Authority, which had operated as a division of the Corporation, was transferred to the private sector effective from the beginning of July 1982. The new company is known as AWTA Ltd.

Wool promotion

Since 99 per cent of the Australian wool clip is exported, the other major arm of wool marketing is the demand stimulating activities carried out in manufacturing and consumer markets around the world. These programs, which commenced in 1937, were significantly scaled up in the 1960s in response to the challenge posed by synthetic fibres. In more recent times these programs have again been increased in an effort to ensure wool's future as a preferred textile fibre in the world's major consumer markets. Growers have financed wool promotion since its inception, and for 1987–88 this was at the rate of 3.5 per cent of gross wool sales revenue, totalling $190.1 million. This was boosted by a Commonwealth Government contribution of $25 million, which meant a total $215.1 million was available for wool promotion during the year. The majority of these funds are remitted to the International Wool Secretariat which operates actively in more than 50 countries around the world.

Wool research

Australian woolgrowers have financed industry research programs since 1937. In recent times this was coordinated through the Wool Research Trust Fund to which both the woolgrowers and the Commonwealth Government contributed. The Fund was administered by the Commonwealth Department of Primary Industries and Energy.

From 1 July 1986, the task of determining industry research priorities and allocating funds was transferred to a new body, the Wool Research & Development Council which was constituted as a committee of the Australian Wool Corporation.

Major recipients of wool industry research funds include the Commonwealth Scientific and Industrial Research Organization (CSIRO)—especially in the fields of wool textiles and wool production; Bureau of Agricultural and Resource Economics; universities and States departments of agriculture/primary industry.

Wool income

Fluctuations in wool prices have a marked effect on agricultural and national income. In 1945–46 the gross value of wool production was $117.2 million, representing 17.4 per cent of the gross value of all agricultural commodities produced, while in 1955–51, when prices reached a peak during the Korean War, wool was valued at $1,303.8 million, or 55.6 per cent of total agricultural industries. More recent figures for the contribution of wool income to total agricultural production and national exports reflect the growth in other commodities over the intervening years, rather than a decline in the fortunes of the wool industry.

WOOL INCOME
(per cent)

Year	*Value of wool as a per cent of total agriculture*	*Value of wool exports as a per cent of total Australian exports*
1982–83	15.0	8.5
1983–84	13.1	8.7
1984–85	15.8	8.7
1985–86	17.5	7.3
1986–87	19.3	10.9
1987–88	27.4	12.7

The gradual strengthening of wool prices since the mid 1970s has seen wool's contribution to total national export revenue increase steadily. This trend has accelerated in the years since 1983–84 when export income from wool has climbed from just over $2 billion to reach $6 billion during 1987–88. This means that wool is again Australia's largest earner of export revenue, as it has been for most of the 200 years of European settlement in Australia.

Stocks

Stocks shown below of raw and semi-processed wool were held by wool processors, scourers, fellmongers, brokers, dealers and the Australian Wool Corporation. They exclude wool on skins since this wool is not recorded as production until fellmongered in Australia or exported on skins.

WOOL STOCKS
('000 tonnes)

	Stocks of—					
	Raw wool		*Semi-processed wool*		*Total wool*	
At 30 June	*Greasy*	*Clean*	*Greasy*	*Clean*	*Greasy*	*Clean*
1983	305.4	189.5	8.2	5.1	313.6	194.6
1984	368.4	232.1	9.6	6.1	378.0	238.2
1985	332.8	212.5	9.1	5.9	341.9	218.3
1986	299.0	190.9	8.5	5.5	307.5	196.3
1987	191.2	119.4	7.2	4.6	198.4	124.0
1988	147.8	94.8	5.9	3.8	153.7	98.6

Wool processing

During the 1970s there was a trend to increased early stage processing of Australian wool before export. The last 2 years has seen a further wave of investment in this area, with some expansion of existing facilities and some new plants being built. There is now sufficient capacity in Australia to process over 20 per cent of the Australian wool clip prior to export.

The main scope for expanded domestic processing remains with worsted types for export in scoured or combed top form. Japanese processors initiated the export of scoured worsted types from Australia, and Japan became Australia's major market for scoured wool in 1973–74. In more recent times China has emerged as a major destination for Australian wool, much of which is part processed prior to export.

Before 1975 the wool processing industry was largely centralised in cities close to major ports. Since then, however, much of the expansion has been in decentralised, inland locations. The most recent investment in this sector has again been adjacent to major ports, especially Melbourne.

Wool consumption

Two series of calculations on Australian wool consumption are shown below:

- Consumption of raw wool, which measures consumption in terms of scoured wool used by mills;
- Consumption of processed wool, which is calculated from the usage of woollen and worsted yarn.

Raw wool comprises greasy, slipe, scoured and carbonised wool. This series has been included for purposes of comparison with other countries.

CONSUMPTION OF RAW AND PROCESSED WOOL
('000 tonnes)

	Consumption of raw wool		*Consumption of processed wool*					
			Worsted yarn used (a)		*Woollen yarn used (b)*		*Total*	
Year	*Greasy*	*Clean*	*Greasy*	*Clean*	*Greasy*	*Clean*	*Greasy*	*Clean*
1982–83	54.7	32.7	9.8	5.8	13.1	8.2	24.1	14.5
1983–84	54.4	32.4	9.8	5.7	14.4	8.9	25.5	15.2
1984–85	59.3	35.4	10.7	6.3	17.0	10.6	28.9	17.4
1985–86	62.5	37.3	10.5	6.1	18.3	11.4	29.9	18.1
1986–87	62.9	37.6	11.4	6.7	17.1	10.7	29.8	17.9
1987–88	64.9	38.9	8.6	5.1	17.6	11.0	29.4	17.8

(a) Wool content of yarns containing a mixture of wool and other fibres. (b) Comprises pure and mixed woollen yarn.

The second series is considered to be a more satisfactory measure of Australian wool consumption, principally because allowance is made for significant quantities of wool tops exported. However, both series relate to consumption of wool by the wool textile industry, and should not be used as measures of consumption of wool at retail level. It has not been possible to estimate wool consumption at retail level because of the impracticability of obtaining reliable data concerning the wool content of the multiplicity of woollen and worsted piece-goods.

Exports of wool

From its earliest days the Australian wool industry has been export oriented, and today approximately 99 per cent of total annual production of wool is exported.

Apart from wool in its natural 'greasy' state, and in part processed forms (i.e. scoured, carbonised, top and noil) a significant quantity of wool is also exported on sheep skins.

EXPORTS OF WOOL

	Selected exports ('000 tonnes: greasy basis)			*Total exports*	
Year	*Greasy and slipe*	*Scoured and carbonised*	*Exported on skins*	*Greasy basis (a)*	*Value f.o.b.*
				'000 tonnes	$m
1982–83	487.7	82.0	54.2	653.6	1,881
1983–84	497.7	95.7	50.7	669.8	2,049
1984–85	554.9	108.5	55.4	746.8	2,548
1985–86	607.9	130.4	61.2	830.5	3,098
1986–87	677.2	150.6	65.8	923.6	3,888
1987–88	663.6	n.y.a.	n.y.a.	n.y.a.	5,219

(a) Includes processed wool.

For further details on sheep shorn, wool production and overseas trade *see* the following publications: *Livestock and Livestock Products, Australia* (7221.0), *Sheep Numbers, Shearing and Wool Production Forecast, Australia* (7211.0), *Shearing and Wool Production Forecast, Australia, Preliminary* (7210.0), *Livestock Products, Australia* (7215.0), *Foreign Trade, Australia* (5409.0, 5410.0), *Production Bulletin No. 4, Australia* (8360.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Dairying

Dairying in Australia has experienced quite significant changes in recent decades. In response to changed demand patterns and consumer preference, both in Australia and overseas, there have been dramatic changes in cow numbers, farm productivity, product mix, export levels and major export destinations.

Although dairying occurs in all States, Victoria, Tasmania and New South Wales combined account for 80 per cent of total milk production. In recent years there has been structural adjustment in some States to match production with domestic market demand particularly liquid milk demand. With the exception of some inland irrigation areas, e.g. the Goulburn–Murray Valley and the M.I.A., most dairying is centred along the coastal belt. Some feed lot dairies have been established in Australia.

Production

Wholemilk production has been around 6,000 million litres in more recent years with Victoria representing approximately 60 per cent. Although total production has stabilised, this has been associated with a fall in both cow numbers and the number of registered dairy farms. In 1989 there were some 15,981 registered dairy farms with 1,663,000 cows in production. This compares with 1982 figures showing some 20,300 farms and 1,812,000 cows.

The factors behind the yield gains of about 4 per cent per annum since 1982 include improved feeding programs (pasture and supplementary), genetic/breeding gains and generally enhanced farm management practices. Economy of operation gains have been possible as average farm and herd size has increased. This has enabled more economic application of new technology. Over the last decade, the rate of average yield increase has been amongst the highest in the world.

Domestic market

The consumption of dairy products in Australia has undergone change in recent years in both the volume and composition of dairy product consumption. These changes generally reflect changes within the Australian population as Australia becomes more culturally diverse. Other factors influencing dairy food consumption include changed consumer preference, e.g. more diet/health conscious, and changed relative prices (butter with respect to margarine). Liquid milk sales account for around 27 per cent of total milk production and compete heavily against other non-alcoholic beverages, e.g. fruit juices. Changes in manufactured dairy produce consumption have been more dramatic than for liquid milk. Recent product developments such as spreadable butter and butter/vegetable oil blends have been commercialised with reasonable success.

Since 1960 annual per capita cheese consumption has risen by an average of 7.9 per cent with current levels at around 9.2 kilograms. The area of greatest growth has been in the specialty type cheeses while per capita consumption of traditional cheddar type cheeses has stabilised at around 5 kilograms per annum. The cheeses to have experienced quite large increases include Camembert, Mozzarella and Parmesan.

Since the mid 1980s, Australian manufacturers' share of the non-cheddar market has been increasing, from 64 per cent in 1983–84 to nearly 80 per cent in 1988–89. This reflects the increasing range and quality of Australian specialty cheeses.

MILK CATTLE NUMBERS
('000)

31 March	Bulls used or intended for service	*Cows and heifers used or intended for production of milk or cream for sale* — Cows (in milk and dry)	Heifers — 1 year and over	Heifers — Under 1 year	House cows and heifers (a)
1983	47	1,792	460	390	69
1984	46	1,809	483	401	66
1985	45	1,809	475	413	63
1986	43	1,770	488	397	61
1987	37	1,716	464	381	41
1988	36	1,676	455	375	38

(a) One year and over, kept for the establishment's own milk supply.

International marketing

Although international trade in dairy products is heavily restricted, Australia exports around a quarter of its annual milk production as manufactured dairy products. During 1988–89, the total value of dairy products exported was $650 million (f.o.b.) with cheese and milk powders the main products sold. Australia's export sales are concentrated in end user markets in Asia and the Middle East, with Japan being our largest single customer.

Because international prices are affected by the export subsidies used by countries such as the EEC, world price minima for dairy products are established under the General Agreement on Tariffs and Trade (GATT). GATT minimum prices for all major dairy products were increased in September 1989 in response to the continued improvement in the international trading environment during the year.

Government assistance

The world dairy market is heavily distorted by the production and trade policies of major dairy producing countries. In light of this the Australian Government allows the Australian industry to fund and operate a market support scheme. This scheme was introduced on 1 July 1986, after much industry consultation. It replaced an equalisation scheme which aimed to protect the industry from unexpected and share falls in world market prices. Central to the former scheme was that returns on export markets were pooled and manufacturers received an equalised return.

Under the current scheme no equalising of returns occurs. The general thrust of the new arrangements is to further expose the industry to market forces, both locally and overseas. An integral part of the current arrangements is the operation of the Market Support Fund.

The Market Support fund is financed via an all milk levy which is determined by government following recommendation of the Australian Dairy Corporation. The all milk levy for 1988–89 was set at 45 cents per kilogram milkfat; current legislation prevents the levy exceeding 45 cents per kilogram milkfat. These funds are used to support export returns, by 18.5 per cent of estimated average export prices in 1988–89.

Assistance to industry is also offered via the Rural Adjustment Scheme which provides financial assistance for such things as farm build-up, farm-improvement and household support. Government funding of dairy research is provided on a dollar for dollar matching basis with industry funded contributions. Producers at present pay a 1.3 cent per kilogram milkfat levy for research and a 4.65 cent per kilogram milkfat levy for promotion.

The allocation of research funds is administered through the Dairy Research Council. Dairy Research Council supported research covers three broad areas — farm, manufacturing and economics and marketing. Examples of more specific research include cheese making technology, pasture renovation, animal nutrition and economic modelling.

PRODUCTION, UTILISATION AND GROSS VALUE OF WHOLE MILK

	Whole milk intake by factories (a)			
Year	*Market milk sales by factories*	*Milk used in the manufacture of dairy products*	*Total intake*	*Gross value*
	—million litres—			$m
1982–83	1,573	3,951	5,524	1,186.5
1983–84	1,572	4,351	5,923	1,153.2
1984–85	1,593	4,445	6,038	1,035.4
1985–86	1,625	4,412	6,037	1,106.7
1986–87	1,685	4,491	6,176	1,257.4
1987–88	1,667	4,462	6,129	1,390.9

(a) These milk intake figures have been collected (from milk factories) by the Australian Dairy Corporation and replace statistics of whole milk production and utilisation previously compiled by the ABS.

Industry outlook

Under the current dairy marketing arrangements, the returns achieved by Australian manufacturers on all sales are largely determined by prevailing international prices. In turn, these prices are heavily influenced by the production and trade policies of the EEC and the USA. During the past two years, improved production controls and the disposal of old stockpiles through discount sales have greatly improved the balance between world supply and demand for dairy products. As a result, international prices have firmed considerably. Farm gate returns for manufacturing milk have also increased in line with the improvement in end product prices, thereby, greatly improving industry confidence overall.

With international supply and demand balances expected to remain fairly tight over the next year, prices should stabilise around their current higher levels.

However, despite this improvement in both farm gate and manufacturer returns, the industry faces a number of challenges in the year ahead. Under the Closer Economic Relations Treaty (CER), New Zealand dairy products will have unrestricted access to the Australian domestic market from July 1990. This will increase the competition between local and imported products in the expanding industrial and food-service sectors of the domestic market. Moves to further deregulate domestic trade in liquid milk and an increased consumer preference for reduced fat dairy products will also provide significant challenges for local producers.

On the international scene there is considerable potential for Australia to improve its access to the more lucrative Northern Hemisphere markets as a result of the current round of Multilateral Trade Negotiations (MTN) being held as part of the GATT Uruguay Round. However, in the shorter term, there will only be limited changes to our pattern and level of export trade.

PRODUCTION AND TRADE OF BUTTER AND CHEESE

	Butter			*Cheese*			
		Exports (a)			*Exports (b)*		
Year	*Factory production*	*Quantity*	*Value f.o.b.*	*Factory production (c)*	*Quantity*	*Value f.o.b.*	*Imports*
	'000 tonnes	'000 tonnes	$m	'000 tonnes	'000 tonnes	$m	'000 tonnes
1982–83	88.3	15.5	41.1	158.2	54.5	134.6	19.7
1983–84	111.3	27.4	50.3	161.1	54.6	141.1	22.3
1984–85	114.0	40.7	69.2	159.6	67.6	163.7	22.3
1985–86	105.0	42.9	71.6	170.1	66.1	165.5	20.3
1986–87	103.9	27.3	52.9	177.5	62.2	164.3	17.7
1987–88	94.2	35.3	67.1	176.3	71.8	186.8	18.6

(a) Excludes ghee and butter concentrates. *(b)* Includes processed cheese exports. *(c)* Factory production is shown only for non-processed cheese.

APPARENT CONSUMPTION OF MILK, BUTTER, CHEESE AND MARGARINE

	Apparent consumption Total			*Apparent consumption Per capita per year*				
							Margarine	
Year	*Market milk*	*Butter*	*Cheese*	*Market milk*	*Butter*	*Cheese*	*Table*	*Other*
	ML	'000 tonnes	'000 tonnes	Litres	kg	kg	kg	kg
1982–83	1,572	61	113	102.9	4.0	7.4	6.8	2.8
1983–84	1,572	60	118	101.6	3.9	7.7	6.9	2.7
1984–85	1,594	62	126	101.8	3.9	8.1	6.6	2.3
1985–86	1,625	60	125	102.5	3.8	8.0	6.9	2.1
1986–87	1,655	56	130	102.6	3.5	8.1	6.8	2.1
1987–88	1,594	61	118	101.8	3.9	8.1	6.6	2.3

For further details on the dairying industry *see* the publications, *Livestock and Livestock Products, Australia* (7221.0), and *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0).

Beekeeping

The beekeeping industry consists of approximately 300–400 full-time apiarists, who produce approximately 70 per cent of Australian honey, and a large number of part-time apiarists who produce the rest. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to obtain a continuous supply of nectar for honey from suitable flora. While honey production remains the predominant sector of the industry, production of breeding stock and provision of pollination services is significant.

Exports of honey are regulated by the Australian Honey Board which also promotes honey consumption.

Statistics up to and including 1985-86 in the following table relate to apiarists with forty or more hives. In 1986–87 the Census scope was revised to include establishments undertaking agricultural activity having an estimated value of agricultural operations (EVAO) of $20,000 or more. The previous scope value cut-off was $2,500 EVAO.

BEEKEEPING STATISTICS

				Honey produced				
		Number of beehives					Beeswax produced	
Year	*Number of apiarists*	*Productive*	*Total*	*Quantity*	*Average production per productive hive*	*Gross value*	*Quantity*	*Gross value*
		'000	'000	'000 tonnes	kg	$'000	tonnes	$'000
1982–83	2,182	390	540	22.5	57.7	16,605	424	1,613
1983–84	2,148	393	529	25.0	63.6	19,220	467	1,622
1984–85	2,222	413	553	28.0	67.7	21,257	528	2,077
1985–86	2,250	427	560	26.9	63.0	25,387	490	2,035
1986–87	760	293	364	19.2	65.6	33,038	334	1,988
1987–88	770	285	366	23.0	80.8	32,500	428	1,900

Honey levy

The *Honey Levy Acts (Nos 1 & 2) 1962* impose a levy on domestic sales of honey. The rate of levy is set by regulation up to a maximum of 2.70c per kg fixed by the legislation.

The *Honey Export Charge Act 1973*, imposes a charge on exports of honey. The legislation provides for a maximum charge of 1.5c per kg.

For further information, *see* the publication *Livestock and Livestock Products, Australia* (7221.0).

Eggs and Egg Products

Commercial egg production in Australian States (including NT but excluding ACT) in 1987–88 was about 184.0 million dozen. The decrease in recent years is expected to continue as all States endeavour to reach their goal of maintaining quota hen numbers at such levels as will result in production being very close to domestic needs with very little left over for export. Such action has been taken as the net return on exports of shell eggs and egg products has been well below the cost of production in past years.

EGGS AND EGG CONSUMPTION
(million dozen)

			Apparent consumption in Australia as human food(b)	
Year	*Recorded commercial production*	*Exports (a)*	*Total*	*Per capita (number of eggs)*
1985–86	183.1	7.6	177.4	134
1986–87	184.5	4.7	184.5	138
1987–88	184.0	4.7	184.0	135

(a) Includes shell egg and egg products in shell egg equivalent. *(b)* Data from 1982–83 consists of commercial disposals only.

Agricultural Improvements

Irrigation on agricultural establishments

Irrigation is one of the factors by which agriculture is developed. The variability in stream flow and annual rainfall means that successful irrigation of crops and pastures is dependent on storage. Ground water supplies are also used in areas where the quantity is adequate and the quality is suitable. The area of land irrigated (approximately 1.8 million hectares in 1986–87) forms 9.2 per cent of the total area under crops.

Chapter 16, Water Resources, contains additional details of water conservation and irrigation with international, national and interstate aspects.

Irrigation statistics are collected every three years in the Agricultural Census and represent area actually irrigated.

AREA IRRIGATED BY SOURCE OF WATER USED, YEAR ENDED 31 MARCH 1987(a)
(Hectares)

	NSW	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Australia (b)*
Surface water—							
From State irrigation schemes	403,852	423,414	69,255	13,103	12,091	2,449	924,164
From other schemes (including private group schemes)							
Direct from rivers, creeks, lakes, etc.	350,963	62,300	50,770	21,555	1,777	13,314	501,713
From farm dams	16,848	34,564	31,792	3,692	4,498	20,797	112,194
Total	367,811	96,864	82,562	25,247	6,275	34,111	613,907
Total surface water	*771,663*	*520,278*	*151,817*	*38,350*	*18,366*	*36,560*	*1,538,071*
Underground water supply (e.g. bore, spear, well)	57,722	26,027	122,997	52,238	5,473	1,476	266,507
Town or country reticulated water supply	732	4,096	546	1,177	130	128	6,942
Unspecified*(c)*	24,951	—	—	—	—	—	24,951
Total all water sources	**855,068**	**550,402**	**275,360**	**91,765**	**23,969**	**38,165**	**1,836,472**

(a) Data for irrigation collected every 3 years. *(b)* Also includes figures for the ACT & NT. *(c)* ABS imputed data to balance area irrigated and source of water questions due to incomplete reporting in the Agricultural Census.

Fertilisers

Most Australian soils are deficient in phosphorus. Because of this and the significant but less widespread deficiency of sulphur in many soils, phosphatic fertilisers, particularly single superphosphate, account for the bulk of fertiliser usage. Nitrogen deficiency is also general in Australian soils and the use of nitrogenous fertilisers is increasing. Potassium deficiency however is confined mainly to soils in the higher rainfall areas which are intensively cropped or used for irrigated pastures.

The pattern of fertiliser usage in Australia has changed dramatically in recent years. Prior to 1973–74 the usual consumption ratio of elemental N:P:K has been 2:6:1, but by 1983 the ratio had changed to almost 3:3:1. This variation has resulted from a combination of reduced consumption of phosphatic fertilisers with an increased consumption of nitrogenous fertilisers.

The domestic industry has sufficient manufacturing capacity to meet normal local demand for phosphatic fertilisers but not nitrogenous fertilisers. Australia is dependent on imports of potassic fertilisers, rock phosphate and sulphur. Imports of compounded high analysis fertilisers and specialised fertilisers were insignificant until 1982–83. Since then, however, imports have been rising strongly, largely as a result of oversupply and lower prices on the world market.

ARTIFICIAL FERTILISERS: AREA AND USAGE

Year	*Area fertilised*	*Super-phosphate used*	*Nitrogenous fertilisers used*	*Other fertilisers used*
	'000 ha	'000 tonnes	'000 tonnes	'000 tonnes
1982–83	n.a.	2,562	429	633
1983–84	n.a.	2,481	414	721
1984–85	26,407	2,374	421	885
1985–86	25,089	2,160	408	869
1986–87	24,473	2,079	401	850
1987–88	26,651	2,454	431	953

Since the Second World War there has been a great expansion of the area of sown pasture accompanied by an increased use of fertilisers. New pasture varieties (including tropical species) have been developed, and nutrient or trace elements deficiencies in soils identified.

The main artificial fertiliser used in Australia is superphosphate, over half of which is used on pastures, mainly in areas with moderate to good rainfall. Large quantities are also used on cereal crops.

SUPERPHOSPHATE USAGE

	Selected crops and pastures					
Year	*Sown and native pastures*	*Lucerne*	*Wheat*	*Other cereals*	*Sugar cane*	*Total*
	AREA FERTILISED ('000 hectares)					
1982–83	10,711	n.a.	9,299	n.a.	300	n.a.
1983–84	10,175	n.a.	9,672	n.a.	292	n.a.
1984–85	10,686	133	9,694	4,588	297	26,407
1985–86	10,674	n.a.	8,813	n.a.	288	25,089
1986–87	10,399	n.a.	8,525	n.a.	289	24,064
1987–88	13,231	n.a.	7,307	n.a.	297	26,651
	SUPERPHOSPHATE USED ('000 tonnes)					
1982–83	1,289	n.a.	777	n.a.	27	2,562
1983–84	1,229	n.a.	720	n.a.	23	2,481
1984–85	1,227	24	618	352	18	2,374
1985–86	1,211	n.a.	499	n.a.	16	2,160
1986–87	1,130	n.a.	437	n.a.	16	1,981
1987–88	1,565	n.a.	367	n.a.	19	2,454

Agricultural machinery on agricultural establishments

Statistics on the type of agricultural machinery on agricultural establishments were published in early issues of the *Year Book*. Additional information was published in the publication *Agricultural Land Use, Improvements and Labour, Australia, 1980–81* (7103.0). Details of the sales of new tractors for agricultural purposes are given in the quarterly publication *Sales and Stocks of New Tractors, Australia* (8507.0).

Employment in Agriculture

Employment on agricultural establishments

Prior to 1976, data on employment collected at the annual Agricultural, Census differentiated between permanent full-time employees and temporary employees. Full-time workers excluded casual or seasonal workers and other persons working only part-time. Casual or seasonal workers were shown as temporary employees.

In the past it has been difficult to maintain comparability of employment on agricultural establishments from year to year because of the changing number of lessees and share farmers and because of the tendency of many farmers to include part-time family helpers as full-time workers in their returns. Since World War II there has been a decline in the percentage of people living in rural areas due, in part, to a rising standard of living accompanying the introduction of new techniques and increasing use of capital equipment, fuel, fertilisers, and pesticides. As a result, a smaller agricultural labour force is now producing a larger output of farm products.

EMPLOYED PERSONS IN AGRICULTURE AND SERVICES TO AGRICULTURE
('000)

Month of August	*Males*	*Married females*	*All females*	*Persons*
1983	290.2	80.2	94.1	384.2
1984	279.3	80.0	93.8	373.1
1985	287.4	89.5	107.1	394.5
1986	278.4	94.0	112.1	390.6
1987	300.4	98.8	116.7	417.1
1988	284.0	104.7	118.7	402.7

Regulation of Australian Agricultural Industries

Year Book No. 61, pages 837–57, contains a summary of the means by which agricultural industries are assisted and regulated. It is not intended as a comprehensive statement of all the consultative and legislative assistance and control measures that exist, but rather as a description of the way in which these processes affect the crops, livestock and livestock products referred to earlier in this chapter.

Agricultural Research by CSIRO

Agricultural research conducted by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is directed primarily to aspects of agricultural production and processing that are of widespread significance and require mid-term to long-term research. It is aimed at establishing principles, practices and technologies that will improve the efficiency and long-term viability of Australian agriculture and its capacity to respond to changing needs. It is vertically integrated, covering all aspects from production through to post-harvest handling, storage and processing, and includes studies designed to integrate new plant varieties, animal breeds and production technologies into sound production systems.

CSIRO's research is appropriate for attacking problems or developing opportunities that transcend State boundaries; are complex and require concentration of disciplinary effort for their solution; and may need sustained long-term effort before they yield practical results. Its agricultural research complements that of State government departments and universities, and the Organisation attaches considerable importance to collaborative research with them.

CSIRO's agricultural research covers the following research areas: plant improvement; plant physiology and biochemistry; soils and plant nutrition; crop and pasture pests and diseases; livestock production; livestock health; agricultural systems; wool textiles and marketing; food handling, processing and storage; and agricultural and veterinary chemicals. There is also research directly relevant to the agricultural industries carried out within the research area of environmental protection and rehabilitation.

Most of CSIRO's agricultural research is performed within the Institute of Animal Production and Processing and the Institute of Plant Production and Processing. The Institute of Animal Production and Processing carries out scientific and technological research aimed at improving the efficiency of livestock production and processing and the quality and safety of human foods. The Institute's activities include research on control of indigenous and exotic animal diseases; nutrition, reproduction, genetics and management of livestock; methods of processing, handling and storing meat, dairy foods, and fruit and vegetables; and wool textiles and marketing. This research is performed by the following constituent units of the Institute—the Divisions of Animal Health; Animal Production; Tropical Animal Production; Food Processing; Wool Technology; and the Australian Animal Health Laboratory.

Research in the Institute of Plant Production and processing is directed to improving the profitability and stability of industries based on field crops, pastures, horticulture and forests, and to providing knowledge for the use and management of Australia's soils, plants and insects. Specific objectives are: to increase understanding of basic plant biological processes and their interactions with insects and soils; to increase the variety and quality of plant-based products to meet market needs; to develop more efficient production systems; to develop technologies to provide new opportunities for Australian industries; and to improve the community's understanding of Australia's plants, insects and soils. This research is performed in the following constituent Divisions of the Institute: Entomology; Forestry and Forest Products; Horticulture; Plant Industry; Tropical Crops and Pastures; and Soils.

The Institute of Industrial Technologies is also engaged in research of direct benefit to the agricultural industries through research on the design and synthesis of potential agricultural chemicals performed by the Division of Chemicals and Polymers.

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14

FORESTRY AND FISHING

FORESTRY

Forests are an important national resource, renewable over time and providing a wide range of indispensable products and benefits to the community.

The cover of forest vegetation protects the soil from water and wind erosion, reduces flash flooding and siltation of water storages, and maintains the quality of water. Forests provide habitat for a variety of native animals and plants, many of which depend on specific forest environments for survival.

Native and plantation forests contribute substantially to the Australian economy, especially to employment in rural areas. Forests also represent ecosystems of value for education, scientific research, tourism, recreation and other purposes. Not all forests are necessarily suitable for all types of uses at the same time. Yet careful management will ensure that the forests provide multiple benefits in the long-term, for the Australian community.

Forestry in the States and Territories

In the Commonwealth framework, State governments are primarily responsible for land management. Each State has a forest authority responsible for the management and control of publicly-owned forests, in accordance with Forestry Acts and Regulations. The Office of the ACT Administration, housed within the Department of the Arts, Sport, the Environment, Tourism and Territories, is responsible for the management and control of forests in the Australian Capital Territory. Forestry in the Northern Territory is the responsibility of the Northern Territory Conservation Commission. In Victoria and Western Australia the former independent forest services have been amalgamated with conservation and land management authorities.

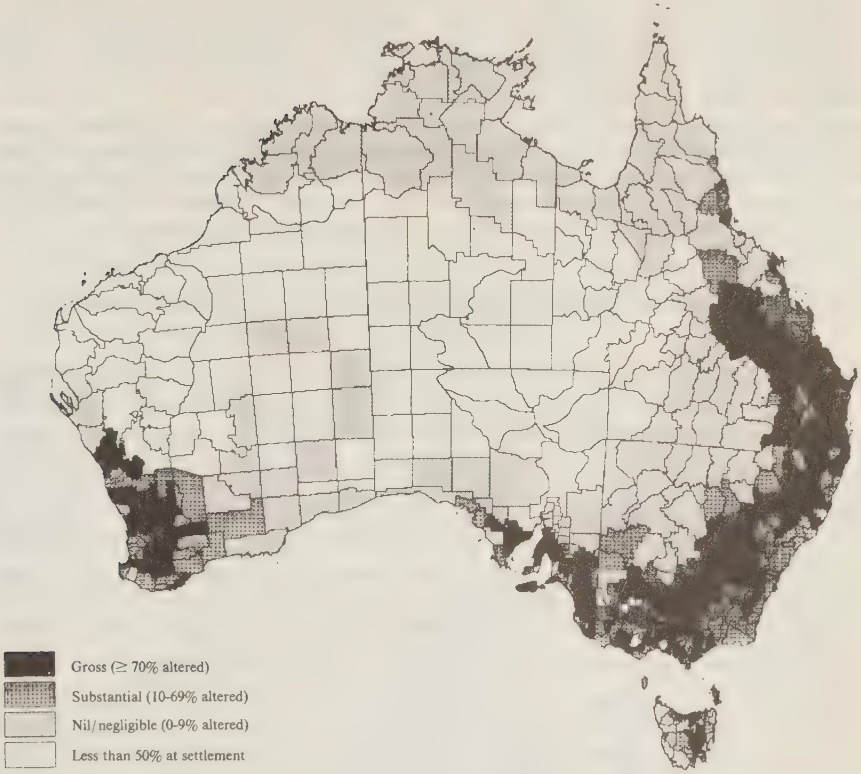
Commonwealth forestry administration

The Department of Primary Industries and Energy is responsible for forestry matters at the national level. Its primary responsibilities are the administration of a control on the export of unprocessed timber; liaison with State, national and international organisations concerned with forestry; and provision of the Secretariat for the Australian Forestry Council.

Existing forest estate

Native forest is defined as land dominated by trees with an existing or potential mature height of twenty metres or more, including native stands of cypress pine in commercial use regardless of height. The total area of native forest was estimated at 40.8 million hectares as at 30 June 1988.

DISTURBANCE TO AUSTRALIAN FORESTS AND WOODLANDS SINCE EUROPEAN SETTLEMENT


Gross (≥ 70% altered)
Substantial (10-69% altered)
Nil/negligible (0-9% altered)
Less than 50% at settlement

This map, produced by CSIRO using the Australian Resources Information System (Cocks et al., 1987) shows the extent to which Australian natural forests and woodlands have been disturbed (usually meaning cleared) since European settlement.

For this map, forests and woodlands are defined as including:

- tree communities with at least 10 per cent projected foliage cover;
- tall (>2 m) Eucalypt shrub communities with at least 10 per cent projected foliage cover (e.g. Mallee);
- mangroves.

Two factors, original vegetation and recent land cover, have been combined to estimate the changes to forests and woodlands since European settlement (Wells et al., 1984).

The percentages shown on this map are conservative, i.e. at *least* these percentages of the original forests and woodlands have been disturbed. Estimates of the percentage of forests and woodlands disturbed in each State are:

> New South Wales, 49%; Victoria, 68%; Queensland, 35%; South Australia, 40%; Western Australia, 31%; Tasmania, 36%; Northern Territory, 0%; Australian Capital Territory, 60%.

Sources:

Cocks, K.D., Walker, P.A. and Parvey, C.A. *Evolution of a Continental Scale Geographic Information System.* Submitted to the International Journal of Geographic Information Systems

Wells, K.F., Wood, N.H. and Laut, P. (1984) *Loss of Forests and Woodlands in Australia: A Summary by State, Based on Rural Local Government Areas.* CSIRO Division of Water and Land Research Technical Memorandum 84/4.

Of the 40.8 million hectares, 29.9 million hectares are in public ownership. The bulk of the 11.0 million hectares of private native forest are not actively managed for wood. Of the 29.9 million hectares of public forests, 5.3 million hectares have national park status and 12.3 million hectares are Crown forests, vacant or occupied under lease on which wood harvesting is carried out under government control but are not reserved and actively managed for wood production.

Of the 12.3 million hectares of State forests, 0.6 million hectares are special reserves managed for other than wood production purposes and on 4.4 million hectares, wood harvesting is restricted partly because of management priorities for other values and partly due to present economic inaccessibility. This leaves 7.3 million hectares or about 18 per cent of a total 40.8 million hectares actively managed for wood production.

NATIVE FOREST AREAS: BY FOREST TYPE AND OWNERSHIP: BY STATE AT 30 JUNE 1988
(' 000 hectares)

Item	*NSW*	*Vic.*	*Qld*	*WA*	*SA*	*Tas.*	*NT*	*ACT*	*Total*
CLASSIFIED BY FOREST TYPE GROUPS									
Forest type									
Rainforest	265	13	1,237	—	—	499	38	—	2,052
Eucalypt productivity Class I *(a)*	1,207	527	205	178	—	442	—	—	2,559
Eucalypt productivity Class II *(a)*	3,659	4,255	1,290	2,477	—	1,903	—	51	13,635
Eucalypt productivity Class III *(a)*	8,009	455	3,300	—	—	—	—	—	11,764
Tropical eucalypt and paperbark *(b)*	—	—	4,078	—	—	—	2,450	—	6,528
Cypress pine	1,819	7	1,686	—	—	—	778	—	4,290
Total	**14,959**	**5,257**	**11,796**	**2,655**	**—**	**2,844**	**3,266**	**51**	**40,828**
CLASSIFIED BY OWNERSHIP									
Ownership category									
Public	*9,759*	*4,652*	*10,304*	*2,153*	—	*2,177*	*839*	*51*	*29,935*
– Category 1	3,222	2,688	3,182	1,863	—	1,391	0	0	12,346
– Category 2	4,390	447	6,412	52	—	461	524	9	12,295
– Category 3	2,147	1,517	710	238	—	325	315	42	5,294
Private	5,200	605	1,492	502	—	667	2,427	—	10,893
Total	**14,959**	**5,257**	**11,796**	**2,655**	**—**	**2,844**	**3,266**	**51**	**40,828**

(a) Eucalypt forests are grouped into productivity classes in descending order of productivity. No specific indexes of productivity have been developed for these classes and there can be some overlap, especially between states, in the relative productivity levels used to assign particular forest types to productivity classes. *(b)* Includes tropical eucalypt and paperbark not in commercial use.

NOTE: Public 1: Forest land managed for multiple use including wood production. Public 2: Crown land either vacant or occupied under lease on which wood harvesting is carried out under government control but is not reserved and managed for that purpose. Public 3: Land on which wood production is excluded (National Parks etc.).

For more details on Australian native forests *see Year Book* No. 61.

Plantations

Tree plantations of a few coniferous species now provide a large part of Australian-grown wood supplies. The large scale establishment of these plantations was commenced by State Forest Services early this century, and in the case of South Australia, last century, to overcome the shortage of native coniferous timber. In an eleven year period covered by the *Softwood Forestry Agreements Acts 1967, 1972* and *1976*, the Commonwealth provided financial assistance to the States in the order of $55 million for an extended program of softwood plantation development. A further Act in 1978 provided funds for a five year period to 30 June 1981 for the maintenance of the area of plantations established previously with Commonwealth funds.

Privately owned coniferous plantations amount to almost one-third the area under State ownership. New coniferous plantations (including replanting) are currently being established at the rate of 34,000 hectares per annum. A detailed account of the history and development of coniferous plantations and of the characteristics of individual species is included in *Year Book* No. 59.

Hardwood plantations are receiving increasing attention as a means of providing a secure resource base for the industry.

The Commonwealth has taken action to encourage native hardwood plantations through the establishment of the National Afforestation Program (NAP) in 1987–88, with funding of $15 million over three years, to assist in the establishment of native hardwood plantations. NAP projects have created over 10,000 hectares of new eucalypt forests, and led to a doubling in the rate of planting prior to the NAP.

An increased interest in the establishment of eucalypt plantations is evident, particularly in Tasmania. The current annual rate of such plantations is about 5,000 hectares. The following table shows total area of plantations in Australia classified by species.

PLANTATION AREAS CLASSIFIED BY SPECIES, 31 MARCH 1988
(hectares)

Species group	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Coniferous—									
Pinus radiata	222,814	199,373	3,264	51,905	88,622	68,380	—	13,940	648,298
Pinus elliottii	n.a.	—	88,255	290	—	—	—	—	88,545
Pinus pinaster	n.a.	—	—	28,671	3,324	—	—	—	31,995
Pinus caribaea	n.a.	—	43,865	—	—	—	2,470	—	46,335
Araucaria	1,582	—	44,593	—	—	—	—	—	46,175
Other	13,971	4,200	6,523	808	370	334	1,801	514	28,521
Total	*238,367*	*203,573*	*186,500*	*81,674*	*92,316*	*68,714*	*4,271*	*14,454*	*889,869*
Broadleaved—									
Eucalptus	1,238	14,617	1,298	10,388	1,200	18,057	—	—	46,798
Populus	1,835	215	—	—	—	—	—	—	2,050
Other	34	16	496	—	—	2,696	—	—	3,242
Total	*3,107*	*14,848*	*1,794*	*10,388*	*1,200*	*20,753*	—	—	*52,090*
Total	**241,474**	**218,421**	**188,294**	**92,062**	**93,516**	**89,467**	**4,271**	**14,454**	**941,959**

(a) Native broadleaved species on public land are not identified separately from native forest areas. Other coniferous includes pinus elliottii, pinus pinaster, pinus caribaea. *(b)* Since 31 March 1986, plantations on aboriginal land have been transferred to private ownership and publicly owned plantations are no longer managed for wood production. *(c)* Does not include APM resource, which is in process of liquidation.

Source: State and Territory forest services.

Australian Forestry Council

The Commonwealth and the State Governments formed the Australian Forestry Council in 1964 to coordinate the development of the nation's forest resource in the general interest of the community. Membership of the Council comprises the State and Northern Territory Ministers responsible for forestry and the Commonwealth Minister for Primary Industries and Energy. The New Zealand Minister for Forestry has observer status on Council. The Council is serviced by a Standing Committee and specialist subcommittees.

The Australian Forestry Council's current terms of reference are to:

- promote the management of Australian forests for the benefit of the people of Australia;
- advance the welfare and development of the industries based upon these forests;
- facilitate the exchange of information between parties interested in all the uses and the protection of the forests;
- facilitate consultation and coordination between the Commonwealth, State and Territory Governments on forestry matters, especially matters having interstate or national implications;
- formulate and recommend national forest policy for Australia;
- coordinate research into all aspects of forestry including the uses of forests and forest products;
- consider matters submitted to the Council by its Standing Committee.

The Council's National Forests Strategy, which outlines important basic principles and goals associated with the management of Australia's forests as well as providing a framework for the general development of programs and ongoing administration, was tabled in Federal Parliament in November 1986.

In recognition of the need to prepare shorter term statements of forestry management objectives, in 1989 the Council authorised the publication of a Public Land Fire Management statement. Its Standing Committee prepared a position paper on Australian Bushfire Research in 1987 and supported the publication of Australian Fire Research in progress Register No. 1.

Research

Commonwealth Scientific and Industrial Research Organisation—CSIRO

CSIRO research on forests is mainly undertaken in the Division of Forestry and Forest Products which was formed on 1 January 1988, integrating research on land use and the production and processing of wood. The research is of two main types: longer-term strategic research that will help shape the future of the industry, and collaborative and contract research with individual companies and States. The aims of the Division are to:

- enhance understanding of the ecology and the basis for sustained productivity of forests;
- develop strategies and techniques for management of forests for multiple uses including wood production, water supply and ecosystem conservation;
- develop technologies for increasing the profitability of forest-based industries through efficient use of wood resources and development of new products.

The Division has major laboratories in Melbourne and Canberra, and smaller research groups in Brisbane, Hobart, Mt Gambier and Perth. Work is organised in eight programs, and is normally undertaken in collaboration with State forest services, private companies or universities.

Australian Bureau of Agricultural and Resource Economics—ABARE

ABARE research is aimed at enhancing the efficiency at forest based industries through analysis of the institutional framework, policies and practices, and the evaluation of alternative arrangements.

Education

The Australian National University and the University of Melbourne offer undergraduate courses leading to a Bachelor of Science degree in Forestry. Most States provide for sub-professional forestry training.

Each year, the Department of Primary Industries and Energy makes available postgraduate awards for full-time research, leading to the degree of Master and/or Ph.D at an Australian university. The Department also administers an award funded from a private bequest for postgraduate study at Oxford University for one year.

Timber and Timber Products

The selected details shown below have been compiled from the annual census of manufacturing establishments.

The woodchip export industry uses timber which is unsuitable for sawmilling and is not required by the Australian pulp, paper and reconstituted board industries. Before the advent of the woodchip export industry much of this material was left standing in the forest after logging, where it inhibited regeneration. After several cycles of selective logging since European settlement, many forests contained large volumes of over-mature and defective timber for which there was no market. The woodchip export industry, by making it economic to remove this poor quality timber, has enabled degraded forests to be regenerated into faster growing, more productive ones. Considerable quantities of sawmill waste material, which would otherwise be burnt, are also chipped for local pulpwood-using industries and for export.

About 4.5 million tonnes of woodchips worth $260 million were exported from Australia in 1986. Over 95 per cent of Australia's woodchip exports go to Japan where they are used to produce high quality printing and writing papers. The remainder goes to Korea and Taiwan.

MANUFACTURING ESTABLISHMENTS (a)—SUMMARY OF OPERATIONS, 1987–88

1983 ASIC (b) code	*Industry description*	*Establishments at 30 June*	*Employment at 30 June (c)*	*Wages and salaries (d)*	*Turnover*
		No.	'000	$m	$m
2531	Log sawmilling	604	11.3	201.3	820.0
2533	Veneers and manufactured boards of wood	72	5.3	125.7	763.1
2537	Hardwood wood chips	12	0.8	26.0	329.8

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment enterprises with four or more persons employed. *(b)* Australian Standard Industrial Classification. *(c)* Includes working proprietors. *(d)* Excludes the drawings of working proprietors.

TIMBER AND SELECTED TIMBER PRODUCTS (a)

Item		*1984–85*	*1985–86*	*1986–87*	*1987–88*
Undressed sawn timber—					
Recovered from sawn logs—					
Australian grown—					
Broadleaved	'000 cu m	1,932	n.a.	2,009	n.a.
Coniferous	"	1,055	n.a.	1,056	n.a.
Total	"	**2,987**	**n.a.**	**3,065**	**n.a.**
Woodchips (green weight)—					
Hardwood (broad leaved)	'000 tonnes	4,817	n.a.	5,287	n.a.
Plywood—					
Commercial – (surface measure)	'000 sq m	5,774	n.a.	6,706	n.a.
(1 mm basis)	"	55,379	n.a.	69,542	n.a.
Waterproof – (surface measure)	"	1,846	n.a.	1,171	n.a.
(1 mm basis)	"	15,446	n.a.	12,132	n.a.
Particle board (resin bonded)	'000 cu m	685	731	705	728
Wood pulp—					
Mechanical	"	351,446	361,356	371,089	414,297
Other	"	n.p.	516,892	534,629	580,192
Paper—					
Newsprint	tonne	354,453	362,954	386,320	401,066
Printing	"	143,927	172,539	184,504	194,191
Tissue and sanitary papers	"	116,289	125,592	133,402	n.p.
Wrapping (incl. kraft)	"	335,882	338,220	362,439	n.p.
Writing and duplicating *(b)*	"	83,127	82,495	77,756	72,588
Other paper (incl. blotting)	"	38,279	40,886	65,067	n.p.
Paperboard (incl. strawboard)	"	475,060	472,609	497,425	557,249

(a) Excludes production of small single establishment enterprises with fewer than four persons employed and establishments engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing. *(b)* Includes cartridge.

FISHING

Source and basis of statistics

Statistics presented in this section are obtained from the Australian Bureau of Agricultural and Resource Economics (ABARE) and the Australian Fisheries Service, Department of Primary Industries and Energy. The Australian Bureau of Statistics (ABS) has reduced its involvement in the collection of fisheries statistics. The ABS no longer publishes statistics on the Australian fishing industry.

Australian fisheries production statistics are generally in terms of the form in which the products are taken from the water. For example, the statistics of fish production published in this chapter are in terms of 'estimated live weights' which are calculated from landed weights by using conversion factors for each species in each State. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on an 'estimated live weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis. The figures for pearl shell and trochus shell refer to the actual quantities of dry shell for sale and exclude the weight of the animal.

For more details of employment and boats and equipment for general fisheries and particulars of the whaling industry *see* earlier *Year Books*.

Fisheries Resources and their Commercial Exploitation

Over 3,000 species of marine and freshwater fish occur in and around Australia and at least an equal number of crustacean and mollusc species. Despite this, less than 100 of these are commercially exploited. Australia's major commercially exploited species are prawns, rock lobster, abalone, tuna, other fin fish, scallops, oysters and pearls. Australian fishing operators concentrate their efforts on estuarine, coastal, pelagic (surface) species and demersal (bottom living) species that occur on the continental shelf.

Fin fish

Off north Australia, barramundi (*Lates calcarifer*) constitutes the most important estuarine and coastal species, while in the south-east and south-west regions, mullet (mainly *Mugil cephalus*), bream (*Acanthopagrus* spp.), Australian salmon (*Arripus trutta*) and Australian herring (*Arripus georgianus*) are important catch components.

Major pelagic fisheries are southern bluefin tuna (*Thunnus maccoyii*) off southern Australia, jack mackerel (*Trachurus declivis*), snoek (*Leionura atun*), pilchards (*Sardinops neopilchardus*) and anchovies (*Engraulis australis*) off south-east Australia and Spanish mackerel (*Scomberomorus commersoni*) off north Australia. A long line fishery for yellow fin tuna (*Thunnus albacares*), big eye tuna (*Thunnus obesus*) and other tunas has developed substantially in recent years off the east coast of Australia.

A large multispecies demersal fishery that targets on flathead (*Neoplatycephalus* and *Platycephalus* spp.), morwong (*Nemadactylus* spp.), redfish (*Centroberyx affinis*), gemfish (*Rexea solandri*), orange roughy (*Hoplostethus atlanticus*), trevally (*Pseudocaranx dentex*) and blue grenadier (*Macruronus novaezelandiae*), exists off south-east Australia. Demersal inshore snapper (*Chrysophrys auratus*) fisheries exist off south-west and south-east Australia; in the latter region, stocks of whiting (*Sillaginidae*) are also fished. In the northern tropical region, reef fish such as cods (*Epinephelus* spp.) are exploited. A large demersal fishery for school and gummy sharks (*Galeorhinus australis* and *Mustelus antarcticus*, respectively) is centred in Bass Strait.

Crustaceans

Prawns (*Penaeus* and *Metapenaeus* spp.) provide the most valuable fishery in Australia and are taken in estuarine, coastal and offshore waters of all States except Tasmania. The largest prawn fishery, the northern prawn fishery, is located in northern Australia from Cape York (Queensland) to Cape Londonderry (Western Australia). The western and southern rock lobsters (*Panulirus longipes cygnus* and *Jasus novaehollandiae*), also a valuable resource, are taken on rocky reefs around the southern half of Australia. Deep water fisheries are developing off the north-west shelf for prawns, scampi and lobsters, and off Western Australia where prawns, scampi, lobsters, crabs, squid and fin fish are taken. Bay lobsters (*Thenus* spp. and *Ibacus* spp.) are taken incidentally to prawn trawling operations. Crabs (*Scylla* spp. and *Portunus* spp.) are taken mainly in Queensland, New South Wales and Western Australia. Tropical rock lobsters are taken in the Torres Strait fishery along with prawns and fin fish.

Molluscs (edible)

Naturally-occurring oysters are harvested in all States; in New South Wales and Queensland the Sydney rock oyster (*Crassostrea commercialis*) is cultured commercially. The introduction of the Pacific oyster (*Crassostrea gigas*) to Tasmania, Victoria, and South Australia has proven successful. Production is planned to increase significantly and presently accounts for over 12 per cent of total oyster production. Following a serious decline in catches in the scallop (*Pecten meridionalis*) fishery based on stocks in Port Phillip Bay in Victoria, new offshore beds were located in southern New South Wales, eastern Victoria, northern Tasmania and south-west Western Australia. However, substantial fluctuations in abundance have resulted in erratic production from year to year. Fisheries based on the saucer scallop (*Amusium balloti*) are centred on Hervey Bay, Queensland and in Shark Bay, Western Australia. An important abalone (*Haliotus* spp.) fishery exists in south-east Australia with Tasmania, Victoria and South Australia providing the bulk of the catch. There is also a small abalone fishery in south-west Western Australia. Mussels (*Mytilus planulatus*) are harvested in Victoria, Western Australia and New South Wales. Small quantities of cephalopods, mainly squid, were produced in many localities. Feasibility fishing located promising squid resources (*Nototodarus gouldi*) in the south-east. Squid (*Loligo* spp.) form an important component to the trawl catch in the Arafura Sea.

Pearl shell and trochus shell

The shell of the Australian species of pearl oyster (*Pinctada maxima*) is taken from various localities in the tropical waters of Australia, between Broome in Western Australia and Cairns in Queensland, for the manufacture of buttons, knife handles, etc. Live pearl shell is used for pearl culture, *Pinctada maxima* being capable of producing pearls which are the largest in the world and which command top market prices. Trochus shell is found mainly on coral reefs off the Queensland coast, although small quantities occur in Western Australia.

Aquaculture

Australia has enjoyed a relatively long history of success in the farming of the Sydney rock oyster. Pearl culture operations and goldfish farming are well established. The production of juveniles of several species of fin fish, molluscs and crustaceans has been undertaken for some years, initially for restocking wild populations and subsequently for grow-out operations. As in many other developed countries, there has been a surge of interest and investment in many types of aquatic farms over the last decade. Notable successes are the salmonid industry in Tasmania, consisting of about 25 farms, and commercial cultivation of the Pacific oyster, blue mussel and rainbow trout.

Developmental work is active in a number of areas such as barramundi, freshwater crayfish (yabbies and marron), prawns, mussels and algae. Research is continuing into the hatchery rearing of species such as abalone, scallops, giant clams, flat and pearl oysters.

Whales

Whales are now a protected species in the Australian Fishing Zone (AFZ).

Foreign fishing

Establishment of the 200 nautical mile AFZ in 1979 covering a total of 8.9 million square kilometres, brought portions of oceanic tuna stocks, and demersal and pelagic fish stocks previously exploited by foreign fishing vessels, under Australian control.

Australia has an international obligation under the Law of the Sea Convention, to allow foreign nations access to resources within the Australian Fishing Zone, that are surplus to domestic fisheries requirements and where such access does not conflict with Australian management and development objectives.

Licensed vessels from Japan, Korea, Thailand and Taiwan are currently permitted to operate in Australian waters either under bilateral agreements or joint venture arrangements with foreign Governments or fishing companies/organisations.

Foreign fishing operations by Taiwan and Thai interests in the demersal trawl fishery off the north and north-west coast take a wide range of tropical demersal fish species, including threadfin bream (*Nemipteridae*), tropical snappers (*Lutjanidae*), emporers (*Lethrinidae*), goatfish (*Mullidae*) and hair tails (*Trichuiridae*). Following the introduction of controls on the length of gillnets which can be used, foreign pelagic gillnet operations have ceased. Japan is permitted, under agreement, to long line, principally for tunas, off certain areas of Australia. There is also an agreement with the Republic of Korea to allow squid jigging in a designated area off Tasmania, Victoria and South Australia.

Fisheries Administration and Research

The Commonwealth Parliament has enacted a number of laws dealing with fisheries in Australian waters beyond territorial limits. The fisheries laws of the Sates and the Northern Territory apply to all kinds of fishing within the territorial sea and inland waters. These laws require the licensing of persons and boats in the commercial fisheries and provide a range of other regulatory powers. The Commonwealth laws relating to fishing are outlined below.

Fisheries Act 1952
This Act applies to commercial fishing for swimming species, by Australians in waters extending from 3 to 200 nautical miles seaward of the territorial sea baseline of Australia and external territories excluding the territorial sea of another country, and by foreign boats in the 200 nautical mile AFZ. The AFZ comprises waters which extend 200 nautical miles seaward of Australia's territorial sea baselines but does not include waters within exclusive fishing zones of adjacent countries or waters adjacent to Australia's Antarctic Territory.

This Act, together with the following two Acts, requires the holding of licences and empowers the Minister to prohibit fishing activities as necessary for the conservation of resources and the management of the fisheries. The Fisheries Act authorises the publication of management plans having the force of law in relation to particular fisheries.

Continental Shelf (Living Natural Resources) Act 1968
This Act regulates the searching for and taking, from the continental shelf of Australia and the external territories, of living sedentary species by Australians and foreigners. Sedentary species are those that, at the harvestable stage, are either immobile on or beneath the seabed or are unable to move except in constant physical contact with the seabed. The continental shelf is the seabed beyond the territorial sea and adjacent to permanently exposed land masses, extending to a depth of 200 metres or, beyond that depth, to where the exploitation of the seabed is possible.

Torres Strait Fisheries Act 1984
This Act gives effect in Australian law to the fisheries elements of the Torres Strait Treaty. The Act applies in the area of Australian jurisdiction in the Torres Strait Protected Zone and areas outside but near that zone proclaimed in respect of particular fisheries which Australia and Papua New Guinea have agreed to manage jointly under the Treaty, or which are referred to in the Treaty.

Foreign Fishing Boats Levy Act 1981; *Fisheries Agreements (Payments) Act 1981*
These Acts facilitate the imposition and collection of access fees for foreign boats fishing in the AFZ.

Fisheries Levy Act 1984
This Act imposes a levy on prescribed classes of licences under the *Fisheries Act 1952* or the *Torres Strait Fisheries Act 1984* or on units of fishing capacity created by management plans under the first of those Acts. Levies are applied to recover costs of management and administration.

Administration

Australian fisheries are administered by the authority having jurisdiction over the waters concerned. In inland waters and in waters within territorial limits, administration is the responsibility of the State or Territory fisheries authority. In proclaimed waters, and on the continental shelf beyond territorial limits, administration is the responsibility of the Commonwealth Government which, by agreement, has delegated to State Fisheries Authorities the necessary authorities for day-to-day administration of the Acts.

The Commonwealth and all State and Northern Territory parliaments have enacted amendments to fishery laws for the purpose of implementing the fisheries elements of the Offshore Constitutional Settlement (OCS) adopted by the Premiers' Conference in 1979. Those amendments, which came into force on 14 February 1983, authorise the Commonwealth and one or more States to enter into a formal legal arrangement to apply a single law (Commonwealth or State) to the management of a particular fishery from low water mark and to vest executive power under that law in:

(i) a joint authority, the membership of which would comprise the Commonwealth and the relevant State or States;

(ii) a State alone; or

(iii) the Commonwealth alone.

OCS arrangements are now in force between the Commonwealth and the Northern Territory and all States except New South Wales. OCS arrangements simply rationalise jurisdiction and do not specify new rules for management of the fisheries concerned.

The administration of the fisheries is directed to a number of objectives. The two most important are conservation and management of the living resources of the AFZ to ensure that they are not endangered by over exploitation; and achievement of the optimum utilisation of the living resources by the Australian fishing industry and foreign interests. Consistent with these objectives a number of controls have been introduced to prevent the depletion of the more heavily fished species and to ensure the optimum utilisation of resources. These controls take the form of individual transferable catch quotas, seasonal and area closures, gear limitations, minimum size requirements and limited access rights as well as outright prohibitions on the taking of certain species.

Formal management arrangements have been implemented or are being developed for all Australian fisheries which are now under Commonwealth control. The aim is to conserve the resource while promoting development and improving the economic performance of the industry. Special emphasis is being placed on the development of Australia's under-utilised species and the discovery of new resources. The Government has encouraged the fising industry to participate more fully in fisheries management. Extensive consultations between government officials, scientific agencies, industry associations and recreational fishermen have become strong features of the decision making process.

Research

The main aim of fisheries research in Australia is to provide a background of biological, technical and economic information which will provide guidance for the efficient and rational utilisation of fisheries resources. To this end much of the research already undertaken has been directed at formulating recommendations for management of various fisheries. Research work, including feasibility fishing projects involving foreign fishing vessels, is also carried out and is expected to lead to the development of new fisheries, the expansion of under-exploited fisheries, greater economy in operations and the use of more efficient equipment and methods.

The Fisheries Development Trust Account (established under the *Fishing Industry Act 1956*) and the Fishing Industry Research and Development Trust Fund (established under the *Fishing Industry Research and Development Act 1987*) are available to support, financially, projects for the development and management of the fisheries and fishing industry which are consistent with the purposes of those Acts. The former was established with the proceeds of the sale of the assets of the Australian Whaling Commission and is replenished from Consolidated Revenue as necessary. The latter is a matching fund into which is paid each year an appropriation from Commonwealth Government Revenue equal to amounts collected from the fishing industry by the State Fisheries Authorities and paid into appropriate State research accounts for the same purpose.

Organisations in Australia at present engaged in research into fisheries matters are:

(i) CSIRO division of Fisheries Research, which has its headquarters and main laboratory at Hobart, Tasmania, and regional laboratories in Western Australia and Queensland (fisheries science)

(ii) CSIRO Division of Oceanography, which has its headquarters and laboratory at Hobart, Tasmania;

(iii) CSIRO Division of Food Research, conducts research into handling, storage, processing and transportation of fish at its laboratory in Hobart, Tasmania;

(iv) The Australian Fisheries Service, Department of Primary Industries and Energy, Canberra;

(v) Bureau of Rural Resources, Department of Primary Industries and Energy, Canberra;

(vi) Australian Bureau of Agricultural and Resource Economics, Department of Primary Industries and Energy, Canberra (economic and marketing research);

(vii) State fisheries departments. Research vessels are operated by New South Wales, Victoria, Queensland, Western Australia, South Australia and Tasmania;

(viii) Great Barrier Reef Marine Park Authority (GBRMPA) located in Townsville and Canberra;

(ix) Universities; and

(x) private fishing companies (surveys of fisheries resources, research into handling, processing and marketing).

Boats and Equipment Used in Fisheries

Fish, crustaceans and molluscs

The boats used for the estuarine fisheries are mostly small vessels propelled by diesel or petrol engines of low power. The offshore vessels range up to 40 metres in length and are almost invariably powered by diesel engines. Most of them have either insulated holds and carry ice, or are equipped with dry or brine refrigeration. Some rock lobster vessels are fitted with wells in which the catch is kept alive.

The following are the types of equipment most commonly used in the main fisheries: *mullet*—beach seine, gillnet; *shark* (*edible*)— long-lines, gillnet; *Australian salmon*—beach seine; *snoek*—trolling lines; *flathead*—Danish seine, otter trawl; *snapper*—long-lines, traps, gillnet, handline; *morwong*—Danish seine, otter trawl, traps; *whiting*—handline, otter trawl, Danish seine, beach seine, gillnet; *garfish*—beach seine; *Spanish mackerel*—trolling lines; *tuna*—pole and live-bait, purse seine, trolling lines (lampara nets and purse seines are used for taking live bait for tuna); *prawns*—otter trawl, beam trawl, beach seine net; *rock lobster*—pots, traps; *scallops*—dredge, otter trawl; *abalone*—diving using hookah gear; *pilchards, anchovies, jack mackerel and stripped tuna*—purse seine; *pearl shell oysters*—diving; *squid*—jigging, otter trawl; *crabs*—traps, otter trawl; *barramundi*—gillnet; and *orange roughy*—otter trawl.

Ketch-rigged luggers about 15 metres long which carry crews of eight to fourteen members are used for pearl shell fishing in northern Australia.

Production, Processing and Domestic Marketing of Fisheries Products

Value of fisheries production

The following table shows the gross value of the Australian commercial fishing industry. As the value of materials used in the course of production is not available, it is not possible to show a comparison of net values. Gross value of production is the value placed on recorded production at the wholesale price realised in the principal markets. In general, the 'principal markets' are the metropolitan markets in each State, although, in cases where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the principal markets. Gross value includes marketing costs which were estimated at $18.8 million for Australia for the year 1979–80. Details on marketing costs are not available for 1980–81 and subsequent years.

FISHERIES: GROSS VALUE OF PRODUCTION

($ million)

1970–71	73	1979–80	299
1971–72	86	*(a)*1980–81	330
1972–73	93	*(a)*1981–82	344
1973–74	100	*(a)*1982–83	423
1974–75	100	*(a)*1983–84	449
1975–76	135	*(a)*1984–85	524
1976–77	194	*(a)*1985–86	595
1977–78	218	*(a)*1986–87	735
1978–79	265	*(a)*1987–88	909

(a) Estimates provided by the Australian Bureau of Agricultural and Resource Economics and the Australian Fisheries Service.

NOTE: Figures exclude on-edible production, but may include the value of production of fishmeat and petfood.

SELECTED MAJOR FISHERIES CATEGORIES: GROSS VALUE (a)

($ million)

	1985–86 *$ million*	*1986–87* *$ million*	*1987–88(b)* *$ million*
Prawns	190.0	220.0	246
Rock lobster	166.0	186.0	252
Tuna *(c)*	16.5	43.7	66
Shark	12.0	15.0	20
Other fin fish *(d)*	90.0	122.0	162
Fish n.e.i. *(e)*	6.0	7.8	8
Abalone	59.7	84.0	96
Scallops	24.4	25.1	20
Oysters	30.0	31.2	38
Total	**594.6**	**734.8**	909

(a) Excludes non edible products. *(b)* Estimated by the Australian Bureau of Agricultural and Resource Economics. *(c)* Excludes sashimi production prior to 1986–87. *(d)* For human consumption. *(e)* Not for human consumption.

Processing of fish, crustaceans and molluscs

There is very little value added processing of fish products in Australia. Processing establishments vary in size, scope of operations and sophistication of technologies employed. The majority of establishments undertake only the most basic cleaning, filleting, packing and freezing processes, but others have the capacity for significant product transformation.

Processing plants are located strategically throughout Australia close to fishing grounds.

Rock lobsters, prawns, abalone, tuna, scallops and some fin fish are frozen for export; tuna, snoek, Australian salmon and abalone are canned; small amounts of fish are smoked; and some molluscs are bottled. Hand labour is still used extensively in processing operations, but mechanisation is being progressively introduced.

Ice is used extensively for the chilling of fish taken in estuarine and inshore fisheries. Refrigeration is used particularly on vessels operating in the tuna and prawn fisheries to chill or freeze the catch. An increasing range of fish products, including fresh-chilled tuna, live rock lobster, abalone and sea urchin roe, are being air-freighted to export markets, particularly Japan.

Fish, crustaceans and molluscs intended for export are processed in establishments registered under the Export (Fish) Regulations. Edible fish for local consumption is mainly dispatched fresh-chilled to markets.

Pearls, pearl shell and trochus shell

PEARL CULTURE AND PEARL AND TROCHUS SHELL FISHING OPERATIONS (a)

(*Source*: **Department of Primary Industries and Energy)**

		1985	*1986*	*1987*
	QUANTITY			
Pearl and Trochus shell fishing operations—				
Production of—				
Pearl shell *(b)*	tonnes	117	196	342
Trochus shell	tonnes	n.p.	n.p.	n.p.
Natural pearls	momme *(c)*	n.p.	n.p.	n.p.
Pearl culture operations—				
Live shell introduced	No.	173,577	145,626	96,637
	tonnes	56	51	47
Production—				
Round and baroque pearls	No.	54,040	25,850	3,822
	momme *(c)*	53,761	21,965	2,690
Half pearls	No.	185,083	112,617	60,780
Manufacturing shell	tonnes	53	19	10
	VALUE ($'000)			
Pearl and Trochus shell fishing operations—				
Production of—				
Live pearl shell		1,831	2,507	5,348
Pearl shell		248	82	384
Trochus shell		n.p.	n.p.	n.p.
Natural pearls		n.p.	n.p.	n.p.
Pearl culture operations—				
Production of—				
Round and baroque pearls		13,616	5,794	1,028
Half pearls		1,289	1,099	546
Manufacturing shell		117	38	48

(a) Figures refer to the fishing season commencing in the years shown. *(b)* Excludes manufacturing shell produced from pearl culture operations. *(c)* A pearl weight measurement equivalent to 3.769 grams.

Marketing of fisheries' products

Exports of fisheries products comes under Commonwealth jurisdiction, while domestic market activity comes under that of the corresponding State or Territory.

Although a substantial proportion of the Australian salmon, and to a lesser extent tuna catches are canned, the greater part of Australian fish production is marketed fresh-chilled.

Marketing arrangements for fresh fish vary. In New South Wales, fish marketing is the responsibility of the Fish Marketing Authority which operates the Metropolitan Fish markets. In other coastal centres of New South Wales, fishing cooperatives may become registered as local fish markets. In Queensland, fishermen must sell their catch to a licensed processor or a licensed commercial buyer. Exceptions exist for fish intended for interstate trade. In Victoria, Western Australia, South Australia and Tasmania, there is no restriction on market outlets. In Victoria, Western Australia and South Australia, most fish are sent to metropolitan wholesale fish markets for auctioning; small quantities are processed for sale locally, chiefly by cooperatives. Nearly all fresh fish in Tasmania is consigned direct to processors. The principal outlets for fish products in Australia are retail and catering establishments.

A high proportion of Australian seafood production is exported and domestic prices increasingly reflect the conditions on export markets. The Australian industry exports 40 per cent of total fish production, but depends on export markets for over 70 per cent of its revenue. The Australian fisheries export industry depends on a limited range of products sold on a few major markets, with Japan and the United States accounting for about 80 per cent of the value of our exports.

Australian fisheries supply domestic markets with fresh and frozen table fish, but do not produce sufficient to meet demand. Over 60 per cent of seafood consumed in Australia is imported, mostly in the form of fresh, chilled or frozen fish. Prawns and canned fish also are significant imported items.

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THE GREAT BARRIER REEF MARINE PARK—CONSERVATION AND MANAGEMENT IN THE MARINE ENVIRONMENT

(This special article has been contributed by the Great Barrier Reef Marine Park Authority)

The Great Barrier Reef—world heritage site and marine park

Scattered over a distance of 2,300 kilometres, from the middle of Australia's eastern coast northwards to Papua New Guinea, lies the Great Barrier Reef. Not really a continuous barrier but a collection of about 3,400 separate coral reefs, shoals and other formations, it is the largest system of coral reefs in the world.

About 2,900 reefs, including 760 fringing reefs, lie within a formally defined area known as the Great Barrier Reef Region which has the tip of Cape York as its northern boundary (*see* Figure 1). With an area of about 350,000 square kilometres the Region is considerably larger than the combined areas of Victoria and Tasmania, although only approximately nine per cent (31,500 square kilometres) is composed of reefs. Within this Region there is great variety in structure and life form. There are some 300 reef islands or cays; 87 of them permanently vegetated. There are about 600 continental or high islands often with fringing reefs around their margins.

This range of reef and island structures is small compared with the diversity of Reef fauna. An estimated 1,500 species of fish and more than 300 species of hard, reef-building corals are known; more than 4,000 mollusc species and over 400 species of sponges have been collected. Six species of turtle and the dugong, an endangered herbivorous marine mammal, also occur in the Region; as do more than 240 species of birds.

Several Great Barrier Reef islands have middens or other sites of Aboriginal and Torres Strait Islander origin, as well as ruins and operating lighthouses of historical and cultural significance. There are also more than 30 known historic shipwrecks.

However, it was primarily for the unique combination of biological diversity and size that the Great Barrier Reef was selected and placed on the UNESCO World Heritage List in 1981[1].

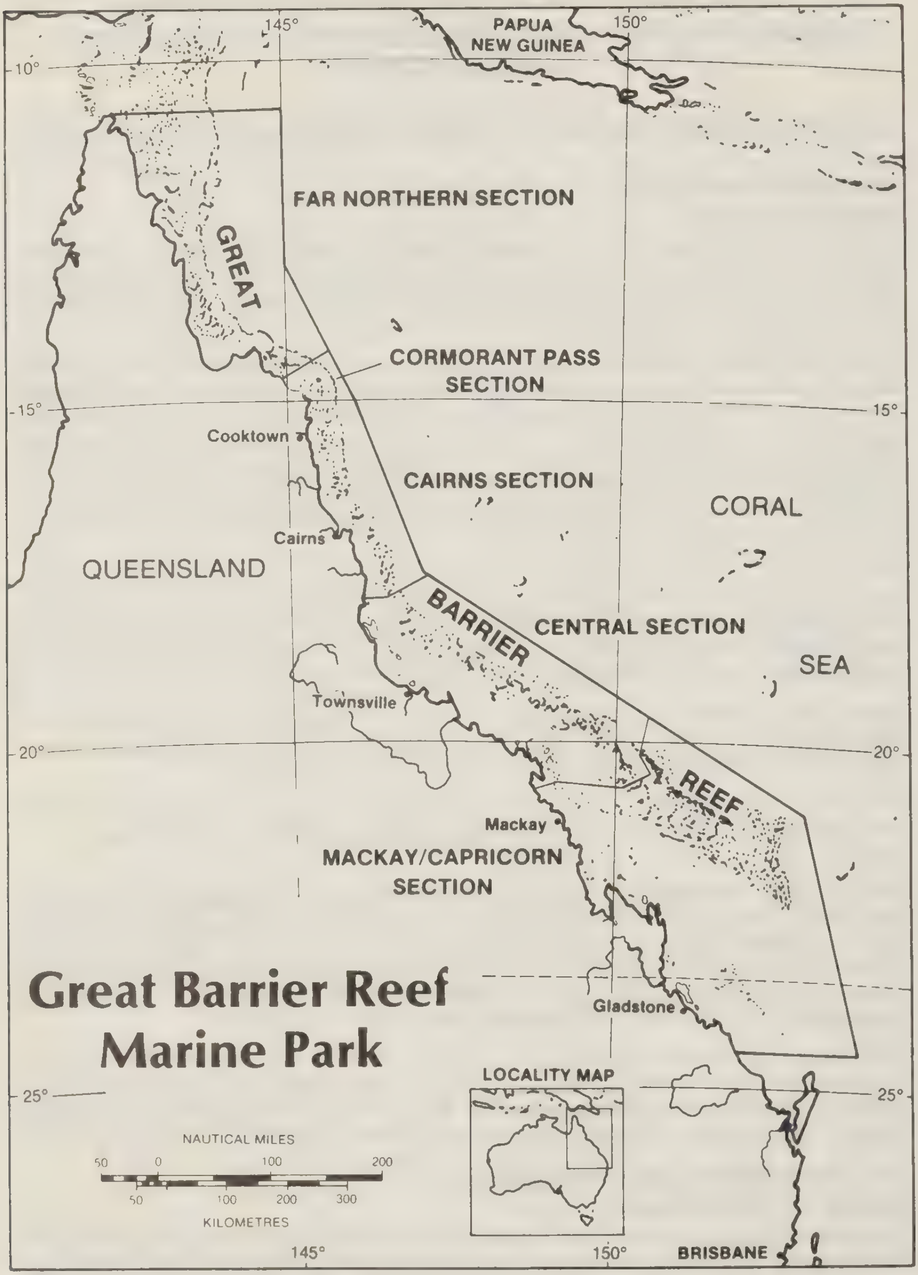
Australia had already taken action to protect the Reef when it established the Great Barrier Reef Marine Park in 1975. The Marine Park is a multiple-use management approach which aims to achieve reasonable use consistent with conservation. The *Great Barrier Reef Marine Park Act 1975* anticipated the 1981 World Conservation Strategy[2] and it may be unique in providing specifically for conservation and reasonable use, or sustainable development of a large area of recognised conservational significance.

The Marine Park overall conforms to Category VIII of the classification system for protected areas used by the International Union for the Conservation of Nature and Natural Resources (IUCN). It also meets the criteria for selection and management as a Biosphere Reserve (Category IX), although it has not been formally proposed or established as one.

The Great Barrier Reef Marine Park—history of establishment

The Region has long been used as a source of food and raw materials. The Great Barrier Reef or parts of it were explored and used by indigenous people for fishing, hunting and collecting many thousands of years ago.

Since the arrival of Europeans, the Reef has been used for commercial enterprises based on harvesting its natural resources: bêche de mer, turtles, scallops, prawns and pelagic and demersal fishes. The bêche de mer and trochus fisheries were particularly important


145°
150°
PAPUA
NEW GUINEA
10°
FAR NORTHERN SECTION
GREAT
CORMORANT PASS
SECTION
15°
15°
Cooktown
CAIRNS SECTION
CORAL
Cairns
QUEENSLAND
BARRIER
CENTRAL SECTION
SEA
Townsville
20°
20°
REEF
Mackay
MACKAY/CAPRICORN
SECTION
Great Barrier Reef
Marine Park
Gladstone
LOCALITY MAP
25°
25°
NAUTICAL MILES
50
0
100
200
50
100
200
300
KILOMETRES
145°
150°
BRISBANE

Great Barrier Reef Marine Park Authority

FIGURE 1

NOTE: The Marine Park comprises about 98.5 per cent of the area of the Reef Region and have at times involved considerable work forces. Records for 1881 show that some 250 tonnes of dried bêche de mer were exported. Today the bêche de mer fishery is non-existent and the trochus industry very small.

The Reef has also been a supplier of non-living resources. For example a number of cays, including Raine, North-West, Fairfax and Lady Elliott Islands, were mined for guano or phosphate rock in the second half of the nineteenth century. The operations were considerable. They involved substantial work forces (there were 112 people on North-West Island in 1897) and removed large quantities of topsoil and rock.

Before Federation in 1901, the Great Barrier Reef was administered by the Colony of Queensland. After Federation this arrangement continued largely unchanged, except that the new Federal Government was given the responsibility for fisheries beyond the 3 mile Territorial Sea and for navigation.

Up until the early 1970s, fishing and collecting were the major activities in the Great Barrier Reef. There was a small but growing tourist industry. Most activities were located close to the mainland and near population centres; few people had access to areas further offshore.

Serious conflict on and about the Reef and its management first arose in the 1960s when the people of Australia became aware of, and objected to, proposals to drill for oil and to mine limestone on the Reef. The ensuing controversy revealed that the Reef was treasured by many Australians for its uniqueness, biological diversity, beauty and grandeur[3].

In 1973, the Commonwealth Parliament passed the Seas and Submerged Lands Act which established overtly Commonwealth jurisdiction over, and title to, the sea bed below low water mark outside State internal waters. This Act was challenged by some of the States but its constitutional validity was upheld by the High Court in 1975.

In the same year, the Commonwealth Parliament passed, with the support of all major political parties, the Great Barrier Reef Marine Park Act which provided for the 'establishment, control, care and development of a marine park in the Great Barrier Reef Region', and gave responsibility for the establishment of the Marine Park and the development of management strategies to the Great Barrier Reef Marine Park Authority.

The 1975 Act represented the culmination of efforts by many people, both within Australia and overseas, concerned about the long-term survival of the Reef in the face of the rapidly increasing development of reef-related industries. Of particular concern was the potential threat to the Reef from mining for limestone and other minerals and oil drilling. Other concerns included the need for environmental controls over expansion of commercial fishing, over the development of a major tourist industry and over impacts reaching the Reef from terrestrial activities[4].

The Marine Park and the zoning system

The Great Barrier Reef Marine Park is not a National Park. While the prime objective is conservation, the Authority is also required to make provision for reasonable use of resources, for the enjoyment of the public, for research and for preservation. This is achieved in the first instance through zoning.

Through the use of zoning, conflicting activities are separated, areas are provided which are suitable for particular activities and some areas are protected from use. Levels of protection within the Park vary from almost complete absence of restriction on activity in 'General Use' zones to 'Preservation' zones in which almost no human activity is permitted. The only activities which are prohibited throughout the Park are oil exploration, mining (other than for approved research purposes), littering, spearfishing with scuba and the taking of large specimens of certain species of fish.

In the zoning plans which have been developed so far, there are three major categories of zones:

Preservation zones and Scientific Research zones	Equivalent to IUCN Category I, Scientific Reserve/Strict Nature Reserve. Only scientific research permitted.
Marine National Park zones (there are 3)	Equivalent to IUCN Category II, National Park. Major uses permitted are scientific, educational and recreational.
General Use zones (there are 2)	Equivalent to IUCN Categories IV, Managed Nature Reserve and VI, Resource Reserve. They aim to maintain sustainable use levels. Commercial and recreational fishing are generally permitted, although bottom trawling is prohibited in one of these zones.

The zones are fixed during the life of a zoning plan (generally five years). They are complemented by generally smaller areas which give special protection from time-to-time to animal breeding or nesting sites, to sites in General Use and other zones which are required to be protected to allow appreciation of nature free from fishing or collecting and to sites suitable for scientific research.

The pattern of zones within a plan as far as possible avoids any sudden transition from highly protected areas to areas of relatively little protection.

The first zoning plan for a section of the Marine Park (Capricornia) came into effect in 1981 and the initial zoning of the whole Park was completed in 1988.

The Marine Park is currently divided into four sections shown in the following table.

GREAT BARRIER REEF MARINE PARK MANAGEMENT SECTIONS

Section	*Area (km^2)*	*Year proclaimed*	*Year plan began operation*
Cairns/Cormorant Pass	35,000	1981	1983
Far Northern	83,000	1983	1986
Townsville/Whitsunday	77,000	1984	1987
Mackay/Capricorn *(a)*	149,000	1984	1988

(a) Subsumed Capricornia Section, which had a zoning plan in operation from 1981 to 1988.

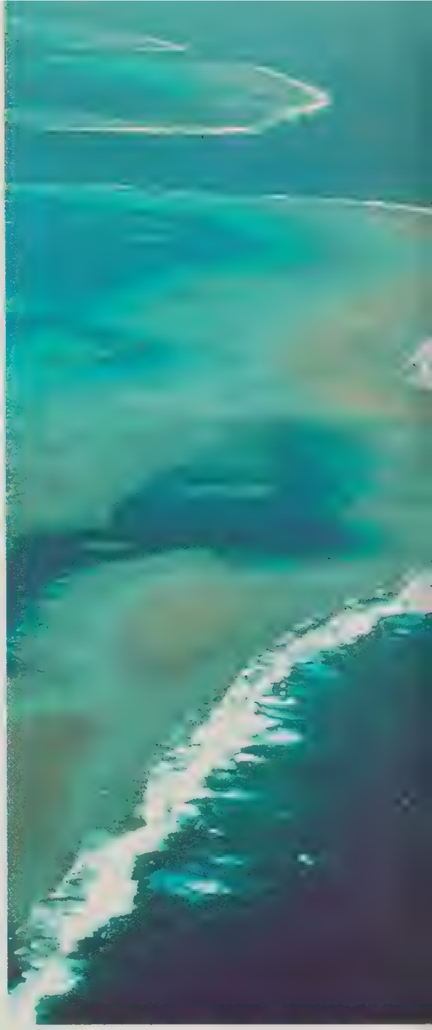
Information for planning and management—the role of research and public participation

The information on which zoning plans are based is obtained from technical literature, specialist reports and from submissions from interested persons and organisations, especially during programs specifically directed at encouraging community involvement.

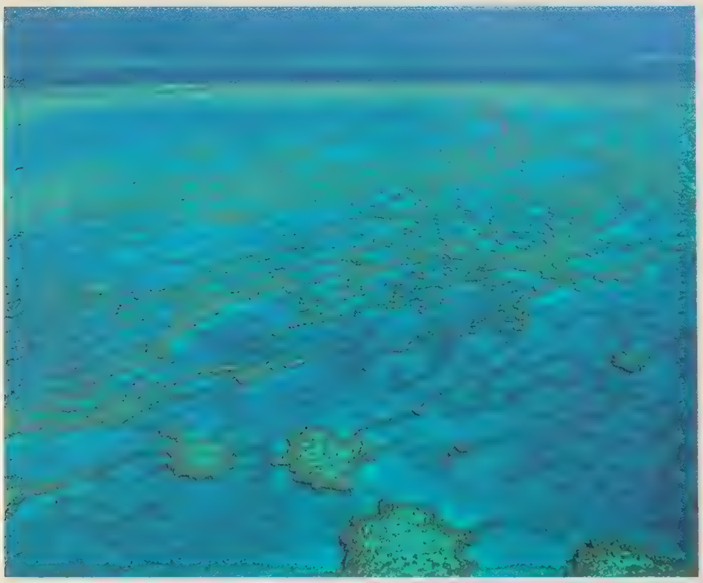
Formal research provides information on the ecological characteristics of the Reef which need to be known as a reference point for the monitoring of the possible changes resulting from human activities. Similar information is also required to predict, at least in approximate terms, the type and scale of effect likely to result from individual or combined activities. The development of monitoring programs assists our understanding of reef processes and of the effects of management.

The Great Barrier Reef Aquarium.

Tourism in the Great Barrier Reef.



View North along Ribbon Reefs.



Black/Hardy Reef.

Tourism in operation at an outer reef. A permit system ensures protection of the environment.

Living coral feeding at night — Great Barrier Reef.

Marine life, Great Barrier Reef.

Green Island

In recognition of the ever-increasing level of understanding of reef processes and the evolving new activities and industries in the Reef Region, zoning plans are publicly reviewed about every five years.

The second major source of information about the Reef is interested persons and organisations. As a statutory obligation, but particularly as a preferred mode of operation, the Authority actively involves the community in planning the Marine Park. It does so primarily through specifically designed public participation programs. These occur in at least two stages in the setting up of an operational Marine Park section: firstly, at a general information gathering phase when a section has been declared but not yet zoned, and secondly, when a proposed zoning plan has been drawn up for the section and is released for public review.

In the light of the representations received at the second stage the zoning plan is revised. When this revised plan has been the subject of subsequent ministerial and Commonwealth parliamentary review; it comes into effect on a specified date. Thereafter a continuing program of extension and community education takes place.

A third source of information is the permit system. Permits are required for many activities to proceed in the Marine Park including tourist facilities and programs, education and research programs, aircraft operations, discharge of waste, collecting, installation and operation of moorings and traditional hunting and fishing. This system allows intended activities to be identified; the potential impacts assessed; if approved, have conditions imposed, and effects monitored. Most permits require renewal after 12 months.

The permit system was instituted to encourage responsible behaviour in users, separate potentially conflicting uses, gather data for management and place reasonable limits on particular operations, consistent with sustainable use.

Marine park management

The Federal and Queensland governments have agreed that the day-to-day management of the Marine Park, using the framework of sections and zoning plans, should be undertaken by Queensland Government agencies, principally the National Parks and Wildlife Service, subject to the Authority.

The Queensland National Parks and Wildlife Service is already responsible for managing numerous island national parks within the outer boundaries of the Region, as well as State marine parks.

A recent restructuring of the Queensland National Parks and Wildlife Service has led to increasing emphasis on the regional management of sections of the Marine Park. Day-to-day management will be directed from regional offices at Cairns, Townsville and Rockhampton with a number of smaller sub-regional offices in appropriate coastal towns.

Under a Commonwealth–Queensland agreement, costs for management in the Great Barrier Reef Marine Park are shared. The purchase of accommodation, boats, equipment and other capital costs are met by the Commonwealth for the first three years or so. Replacement capital and running costs, which include rent, salaries, fuel and communications, are shared equally by the two governments.

Management by education is a major focus of the Authority. While there must be regulations and penalties, ultimate success in conserving the Great Barrier Reef depends upon genuine community understanding and acceptance of the need for self-regulation and adherence to the provisions of zoning and management plans. As well as tapping the tremendous store of Reef knowledge held by the community, public participation contributes to the acceptance of zoning and management plans.

The authority's education and information program produces materials and programs for community education and assists operators in the tourism industry with the development of visitor programs which are conservationally and educationally focused.

The Authority also operates a major aquarium housing a living coral reef in Townsville. The Great Barrier Reef Aquarium is enabling visitors to the Reef Region to gain a greater understanding and appreciation of the Reef and its management as a Marine Park. While the Aquarium provides a 'reef experience' in itself, it also encourages visitors to experience the 'real thing', with care for the environment brought about by greater understanding.

Management—modern reef-based industries

Today, the three major industries of the Great Barrier Reef, in terms of people employed and annual turnover, are tourism, recreational fishing and commercial fishing.

Tourism (encompassing the provision of accommodation, transport and recreational activities) is the fastest growing activity. The popularity of the Reef and adjacent coast region as a tourist destination increased forty-fold between 1940 and 1980 and continues to increase. In 1989, tourism to the Reef was estimated at 2.1 million visitor days a year. The Cairns area has seen rapid increases with organised tourism on reefs close to Cairns estimated to have grown by 30 per cent per annum between 1986 and 1989.

Tourism and recreation activities extend along most of the length of the Great Barrier Reef but have been focused in the Cairns, Townsville, Whitsunday Islands and Gladstone areas. The major activities are summarised in the following table.

MAJOR TOURISM AND RECREATION ACTIVITIES IN THE GREAT BARRIER REEF MARINE PARK

Structure/Activity	*Began*	*Current number*
Island resorts	1932	27
Resort capacity (beds)	1932	5,300
Bareboat charters	1978	>130
Large catamarans	1980	30
Pontoons	1982	20
Floating hotels	1988	—
Private boat use	..	20,000

The Reef Region supports a number of significant recreational and commercial fisheries including prawn trawling, trolling, line fishing, crabbing, collection of aquarium fish, corals, shells, trochus and bêche de mer.

It is estimated that half the commercial Queensland fish catch is taken from within the Great Barrier Reef Region. Recreational fishing tends to concentrate on stocks close to the coast and takes a higher percentage of the catch than commercial fishing in these areas.

Management—problems and responses

One outcome of these activities has been increasing competition for the use of limited desirable sites, leading to increasing conflict between competitors for the same type of use, and competition for different types of use. For example, a large tourist pontoon is incompatible with commercial fishing or a small dive operation. Sites suitable for reef based tourist activities are usually determined by distance from a population centre, protection from the weather and quality of the reef in terms of coral cover and fish abundance.

Concern to prevent unacceptable ecological impact is paramount in the Authority's management of tourism development. The types of biophysical environmental impacts which may be associated with reef-based tourism operations include: discharge of waste, litter and fuel; physical damage to reefs from anchors, people snorkelling, diving and reef walking; disturbance of fauna (especially seabirds); and over-fishing or collecting. All of these may be managed to some extent by design, prohibition or limitation.

The permit system has an important role here. All tourist activities require a permit, and while the assessment and issuing of permits has become a large administrative burden, it does provide, through attached conditions, the means to control activities and limit effects. It has become a practice to specify conditions that relate to all aspects of an operation, including limits on the number of people allowed on a site and what they can do there.

It is considered that some uses of parts of the Reef have already reached levels that appear to exploit fully the productive capacity of the system e.g. bottom trawling for prawns. A decline in the average size of reef fish landed from charter boats indicates reef fishing is also affecting stocks[5].

Run-off from islands and the mainland contains suspended solids, herbicides, pesticides, and nutrients. It is likely to have effects on the Reef but the magnitude of the effects, and whether these effects represent a real threat to the Reef, is not yet known. The Authority is funding a program to determine more precisely the origins and amounts of nutrients that enter the Marine Park.

The table below summarises management problems relating to major activities which occur within the Great Barrier Reef Marine Park, and how the Authority has attempted to contend with these problems or threats[6].

Whilst the following represent some of the major problems that the Authority has had to contend with in recent times, there are many other problems that arise, some of which are inherent in being a bureaucracy, particularly one that has to deal with two levels of government—the Commonwealth and Queensland. A continuing problem for the Authority is to overcome the tendency of any bureaucracy to either over-regulate or to become complacent and allow industry to degrade the environment.

MANAGEMENT PROBLEMS AND RESPONSES

Activity	**Commercial and recreational fishing and collecting**
Threats/Problems	Stock depletion; destruction of habitat; competition with other uses; increasing levels of activity—recreational fishing is increasing at a rate of about 7 per cent per year; increasing costs; conflict between users; resistance to management.
Management Response	Identify and monitor available resources; attempt to maintain effect within the capacity of resource stocks; separate conflicting operations; ensure effective education and extension; carry out research on which to base management decisions, in cooperation with the fishing industry and agencies.
Benefits	Medium and long-term sustainable levels of activity identified; reduced conflict through separation of conflicting activities; cooperation in obtaining effective management; short-term disbenefits as regulation affects users who have not been affected before.
Activity	**Private recreation (not fishing or collecting)**
Threats/Problems	Scarcity of attractive, accessible sites; competition by both compatible and incompatible uses for suitable sites; overcrowding; loss of amenity; destruction of coral and other reef life.
Management Response	Separate incompatible activities; provide information to improve understanding and minimise impacts; limit site use to sustainable levels.
Benefits	Reduced competition and conflict; sustainable activity; increased enjoyment through improved information.

MANAGEMENT PROBLEMS AND RESPONSES—*continued*

Activity	**Tourist programs and developments**
Threats/Problems	Large volume use of accessible sites; competition with existing uses.
Management Response	Allocate sites on the basis of suitability; control impact through conditions on permits; education and information for operators and visitors to improve understanding and minimise impacts.
Benefits	Sustainable development; reputation for quality tourist experience in a protected natural environment.
Activity	**Habitat preservation, scientific research**
Threats/Problems	Increasing levels of use of the Great Barrier Reef; illegal entry; major degradation from accidental impacts (e.g. oil spills), incidental impacts (terrestrial run-off); need for minimally disturbed reference and research sites.
Management Response	Zone uses; set aside scientific research and preservation zones; enforce regulations; monitor environmental conditions, human use and the impact of use; support management-related research.
Benefits	Ecosystem maintenance through effective management.

The Great Barrier Reef Marine Park—towards 2000 AD

In some ways the Great Barrier Reef Marine Park is an experiment on a grand scale. Nevertheless, principles are being followed in its development which have often been successfully applied to regional planning in the terrestrial sphere. The Marine Park is now seen as a model for marine resource management and each year the Authority receives many requests for technical assistance from countries around the world.

There is, in the main, considerable public satisfaction about the role and actions of the Authority. A survey of users of the Capricornia Section after five years of operation found that 63–90 per cent agreed that zoning helped to protect the Reef, and 50–73 per cent agreed that the zoning plan was a wise use of public money[7].

The successes achieved so far in managing the Great Barrier Reef Marine Park have been due largely to a range of legislative and administrative arrangements which have been accompanied by strong commitments to gathering the necessary information for planning, by consulting all user groups and with an extensive education and information program promoting 'wise use' to the Australian community. Maintaining this community support at a high level is essential for the Marine Park to succeed in attaining its fundamental objective—long term harmony between human activities and the conservation of the Great Barrier Reef.

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15

MINERAL INDUSTRY

Geology and Mineral Resources

General geology

Most of the western and central part of the Australian continent consists of basement rocks of Precambrian age. Younger Palaeozoic rocks, mostly of geosynclinal origin, form a discontinuous belt several hundred kilometres wide extending from north Queensland to Tasmania. Mesozoic platform sediments form a broad zone separating the Palaeozoic and Precambrian rocks and extending from the Gulf of Carpentaria to central New South Wales. Cainozoic rocks occur mainly in Victoria, south-western New South Wales and southern South Australia, and as residual basalt cappings over extensive areas of the Palaeozoic rocks of eastern Australia.

Economic geology

Minerals of economic significance occur throughout Australia, their geological age ranging from Precambrian to Recent. Many of the large deposits such as those at Broken Hill (New South Wales), Mount Isa (Queensland), Olympic Dam (South Australia) the Kalgoorlie and Pilbara regions of Western Australia and the Alligator Rivers area of the Northern Territory are Precambrian in age. In eastern Australia the major deposits such as the Elura, Cobar, Woodlawn and Rosebery base-metal deposits and most of the gold and black coal deposits, are Palaeozoic in age. The black coals of the Moreton district of Queensland, north-east New South Wales and Leigh Creek, South Australia are of Mesozoic age. Deposits formed in Tertiary times include the brown coal in Victoria, the bauxites of Weipa (Queensland), Gove (Northern Territory) and the Darling Range (Western Australia) and the nickeliferous laterites at Greenvale (Queensland).

Mineral resources

Australia is self-sufficient in most minerals of economic importance (and much more than self-sufficient in some). Major minerals with known reserves adequate for domestic demand and exports include bauxite (aluminium), black coal, clays, copper, diamonds, gold, iron ore, lead, manganese, natural gas, nickel, salt, silver, uranium and zinc.

A special article on the development of Australia's mineral industry is included at the end of Chapter 15 of *Year Book* No. 71, pages 592–598. For further details of principal Australian mineral deposits, and notes on principal mineral resources, *see Year Book* No. 61, pages 925–932.

Administration

Mineral rights in Australia are held by the State and Territory governments and the granting of exploration and development titles is administered by them under the respective State or Territory legislation. The Commonwealth Government holds rights to minerals in Federal Territories and to certain prescribed substances in the NT, within the meaning of the Atomic Energy Act (principally uranium). The Commonwealth Government is also able to influence overall development and production activity in the mineral industry by virtue of its statutory powers with respect to international trade, customs and excise, taxation and loan raisings. Certain specially-formed bodies such as the Joint Coal Board have been given administrative responsibility in defined areas. The government has also established consultative mechanisms, such as the Australian Coal Marketing and Technology Council, to provide an advisory, rather than administrative, role.

Mineral exploration and development

Onshore

Each State or Territory has its own mining Acts or Ordinances and Regulations governing the prospecting for and working of mineral deposits. These Acts and Regulations, although similar in principle are different in detail. They all make provision for a miner's right to prospect and for small mining leases for mineral production. The principles embodied were established many years ago when mining operations were generally small-scale and labour-intensive. Although amendments have been enacted to modernise the legislation, it is generally inadequate for the large-scale capital-intensive operations often involved with modern mineral development. For this reason, a large enterprise may take the course of acquiring mining titles by negotiations with the appropriate Minister for Mines and having the agreed terms and conditions embodied in an Act of the State Parliament. This method of acquisition has been used in several cases where the leasing company undertook an obligation (such as the erection of a large treatment works) in return for leases over large areas for a long period, and has become more common in recent years (e.g. iron ore in Western Australia, coal and bauxite in Queensland and bauxite in the Northern Territory). Mining legislation enacted in recent years is simpler and more suited to modern conditions.

As a result of the introduction of large-scale modern prospecting methods (particularly airborne prospecting), small prospecting areas were found to be unsuitable in some instances, and steps have been taken in the States and Territories to ensure the availability of large areas for prospecting by interested persons. Large areas may be made available by provision within the mining Acts or Ordinances for the issue of authorities to prospect over an area defined by a written agreement which also sets out provisions as to the amount of money to be spent, methods of prospecting, tenure of the agreement, etc.

The tenure of such areas is limited (usually to one or two years) and, if renewed for a further period, is only over an area selected from the larger area (usually 50 per cent) as a result of work done during the life of the initial agreement. It does not give the holder any rights over, or authority to prospect on, land already held under a mining title within the agreed area. Unless specifically stated in an agreement, the discovery of minerals, whether inside or outside an area covered by an authority to prospect, gives the discoverer no legal rights except the right to apply for a mining lease over the area in which the discovery was made. Suitable prospects are converted to mining tenements by making application for lease under the appropriate mining Act.

Offshore

Following the enactment of the *Seas and Submerged Lands Act 1973* the High Court confirmed that the Commonwealth has sovereignty over the territorial sea and sovereign rights over the resources of the whole of Australia's continental shelf. However, in the Offshore Constitutional Settlement between the Commonwealth and the States reached in June 1979, it was agreed that responsibility for mining of the seabed on the landward side of the outer limit of the 3 nautical mile territorial sea should lie with the States, while the Commonwealth should have responsibility for areas beyond.

The *Minerals (Submerged Lands) Act 1981* passed by the Commonwealth Parliament in June 1981 follows the scheme of the offshore petroleum legislation amendments passed in 1980 and provides for joint Commonwealth–State authorities to be responsible for major matters under the legislation with the States being responsible for day-to-day administration. The Commonwealth is working with the States to expedite the implementation of the

Minerals (Submerged Lands) Act by all governments. In the meantime administration of offshore mining is carried out under the States' onshore mining legislation on an interim basis.

The mining code under the new legislation provides for a two-stage system of titles: the exploration permit, which covers all forms of exploration, and the production licence, which covers development.

Petroleum exploration and development

Onshore

In Australia full control of petroleum mining rights is vested in the government or administration of each State or Territory. Any company, organisation or individual proposing to undertake petroleum exploration or development must first satisfy the government concerned that the necessary financial and technological resources are available to carry out the operation.

There are three main types of petroleum title:

(i) the exploration title, where the holders are typically given exclusive rights over the area to conduct petroleum exploration, including the drilling and testing of wells;

(ii) the production title, which is required for commercial production of petroleum and gives the holder the right to produce and sell the petroleum subject to the payment of a royalty calculated as a fixed percentage of the well-head value of the petroleum produced; and

(iii) the retention licence enacted in the Northern Territory, covering onshore petroleum exploration and production under the *Petroleum Act 1984* and is intended to allow tenure over currently non-commercial discoveries.

Royalty arrangements vary from State to State. All States and the Northern Territory determine royalties derived from onshore production as a percentage of the derived well-head value of all petroleum production.

The Commonwealth has passed legislation that provides for the replacement of all Commonwealth excise on liquefied petroleum gas and crude oil, and State ad valorem royalty, with a resource rent royalty where the relevant State government has negotiated an acceptable agreement with the producers and has agreed upon a satisfactory revenue sharing formula with the Commonwealth.

Offshore

As part of the Offshore Constitutional Settlement between the Commonwealth and the States, responsibility for administering petroleum exploration and production within the outer boundary of the three nautical mile territorial sea rests with the relevant State or Territory while the Commonwealth has responsibility for the continental shelf beyond the territorial sea. The *Petroleum (Submerged Lands) Act 1967* provides for a Joint Authority for the adjacent area of each State and the Northern Territory (beyond the territorial sea limit) consisting of the Commonwealth Minister and the State/Territory Minister. The Joint Authorities are concerned with major matters arising under the legislation and in the case of disagreement the view of the Commonwealth Minister prevails. Day-to-day administration is the responsibility of the State or Territory Minister as the Designated Authority and State or Territory officials.

The mining code applicable under the legislation provides for a three stage system of titles: the exploration permit, which covers all forms of exploration including drilling, the retention lease which provides tenure over currently non-commercial discoveries and the production licence, which covers development and production.

Secondary taxation arrangements vary. In the major production areas of Bass Strait (crude oil/natural gas) and the North West Shelf (natural gas/condensate), a royalty is levied on all petroleum production. The Commonwealth shares payments with the relevant States under the Offshore Constitutional Settlement. In addition, the Commonwealth also levies excise on crude oil production.

All other offshore projects ('greenfields' projects which had not received a production licence by July 1 1984) are subject to petroleum resource rent tax, in accordance with legislation introduced by the Commonwealth in 1987.

Availability of exploration acreage

As part of the government's aim to encourage petroleum exploration, regular releases of offshore exploration acreage are made.

Mineral royalties

The collection by governments of royalties for the production of minerals within their area of authority is an internationally-accepted practice. In Australia, the responsibility for mineral royalties is largely a State concern, and all States currently collect some form of mineral royalty payments.

In recent years there has been an important basic change in the system of establishing royalty commitments, and it is now quite common for State governments to negotiate special royalty rates with companies which are seeking mineral leases for large scale developments. These royalty rates may vary, depending on whether production is for export or for domestic processing. The rates for a particular mineral may also vary between producers. Important examples of this type of royalty agreement are the iron ore development agreements in Western Australia and coal development agreements in Queensland. Mineral royalties received by governments in recent years are shown in the following table.

MINERAL ROYALTY RECEIPTS: GOVERNMENTS
($'000)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
New South Wales*(a)*	105,403	109,789	109,194	118,569	135,486	102,569
Victoria*(b)(c)*	124,861	180,585	206,086	213,292	157,991	145,215
Queensland*(a)*	89,793	107,579	142,533	196,110	176,451	196,013
South Australia	9,321	14,172	27,739	58,352	33,592	36,011
Western Australia	102,454	*(d)*168,477	131,640	162,208	154,056	162,648
Tasmania	2,082	2,137	1,043	1,507	1,641	3,048
Northern Territory	2,934	3,963	5,483	8,079	7,186	10,642
Commonwealth Government*(c)*	83,609	103,412	114,299	187,061	119,806	132,346
Total	**520,457**	**690,148**	**738,017**	**945,178**	**786,210**	**788,492**

(a) Includes royalties on sand and gravel from Crown lands. *(b)* Includes royalties on brown coal paid by State Electricity Commission. *(c)* Includes royalties received under the *Petroleum (Submerged Lands) (Royalty) Act 1967–68*. *(d)* Includes prepaid royalty of $50 million in respect of diamond royalty agreement.

Joint Coal Board

The Joint Coal Board was established in 1946 under joint legislation of the Commonwealth Government and of the State of New South Wales to carry out special functions in regard to the New South Wales black coal mining industry. In summary, the Board's functions are to:

- ensure that coal is produced in the State of New South Wales in such quantities and with such regularity as will meet requirements throughout Australia and in trade with other countries;
- ensure that the coal resources of the State are conserved, developed, worked and used to the best advantage in the public interest;

- ensure that coal produced in the State is distributed and used in such manner, quantities, classes and grades, and at such prices as are calculated best to serve the public interest and secure the economical use of coal and the maintenance of essential services and industrial activities;
- promote the welfare of workers engaged in the coal industry in the State.

Government Assistance

The Commonwealth Government and the various State governments provide assistance to the mineral industry in a variety of ways. The main forms of assistance are discussed on the following pages.

Commonwealth Government assistance

Assistance provided by the Commonwealth Government takes the form of income taxation concessions, subsidies, bounties, and technical assistance, mainly through the work of the Bureau of Mineral Resources, Geology and Geophysics (BMR) and the Commonwealth Scientific and Industrial Research Organization (CSIRO) as well as through the National Energy Research, Development and Demonstration Program.

Income taxation concessions as at 30 June 1989

Income derived from mining, principally for gold, in Australia is exempt from tax. The exemption is also available in respect of income derived from mining principally for gold and copper if the value of the gold obtained is not less than 40 per cent of the value of the total output (excluding the value of pyrites).

Special deductions for capital expenditure incurred in prospecting and mining for petroleum (including natural gas) are allowable to a petroleum mining enterprise engaged in these operations in Australia. Capital expenditure allowable to petroleum mining enterprises includes, broadly, the amount of successful cash bids and the costs of exploratory surveys; access roads; and housing and welfare. The enterprise is entitled to these special deductions against income from any source although in the case of cash bids, the deduction only becomes available if a production licence is granted. While the special deductions for prospecting expenditure are deductible immediately against the net income of the enterprise, the deductions for capital expenditure on mining are allowable over the life of the oil or gas field or over ten years, whichever is the lesser, on a straight line basis.

An enterprise mining or prospecting for minerals other than petroleum and gold may also be allowed special deductions for capital expenditure. Broadly, allowable capital expenditure includes expenditure on exploration and prospecting; preparation of a site for extractive mining operations; buildings; other improvements necessary for those operations; access roads; and housing and welfare.

The allowable capital expenditure of a general mining enterprise, other than costs of exploration, may be deducted against income from any source over the life of the mine or over ten years, whichever is the lesser, on a straight line basis. Expenditure incurred by a general mining enterprise in exploring for minerals is deductible immediately against the net income of the enterprise from any source. Undeducted exploration and development expenditure of general mining and petroleum companies may be carried forward indefinably, although in respect of such expenditure actually incurred in 1985–86 and subsequent financial years the companies may elect to have such undeducted expenditure treated as carry-forward losses transferable to another company in the same group.

Annual deductions for depreciation on petroleum mining plant or general mining plant are available. The cost of exploration plant may also be deducted under the depreciation provisions of the law. The investment allowance scheme may permit a deduction at the rate of 18 per cent of the cost of certain new plant, provided it was contracted for (or construction commenced) before 1 July 1985 and is the first used for the purpose of producing assessable income, or installed for such use, before 1 January 1988.

Special deductions are allowable for capital expenditure incurred on certain transport facilities for use in Australia primarily and principally, for the transport of raw minerals (other than petroleum or gold) and certain specified products obtained from the processing of such minerals, or for transporting petroleum between the oil or gas field and a refinery or other terminal. The special deductions apply to expenditure incurred on a railway, road, pipeline or similar transport facility and on certain port facilities or other facilities for ships. Allowable expenditure on transport facilities is deductible in equal annual instalments over a period of ten or twenty years at the option of the mining enterprise.

Bureau of Mineral Resources, Geology and Geophysics—BMR

The BMR is the principal geoscientific agency of the Commonwealth Government. Established in 1946, it is a Research Bureau of the Department of Primary Industries and Energy.

The role of BMR is to:

- develop a publicly available, comprehensive and integrated geoscientific knowledge base for the Australian continent, the Australian offshore area and the Australian Antarctic Territory, especially through the provision and coordination of appropriate databases, as a basis for encouraging and improving the effectiveness of exploration for, and assessment of, Australia's endowment of petroleum, mineral, and groundwater resources and for contributing to land-use planning and to the resolution of environmental issues, including the mitigation of natural hazards;
- provide independent and timely scientific and technical assessments, advice and information to government, industry and the public to facilitate the formulation and implementation of policies necessary for the effective management of the land and its petroleum, mineral and groundwater resources;
- provide special national geoscientific capabilities, such as the geophysical observatory functions and seismic monitoring for both earthquake risk and underground nuclear explosions; and
- participate in appropriate multilateral and bilateral geoscientific programs to contribute to Australia's international policy objectives.

In carrying out its role BMR cooperates closely with State and Northern Territory government agencies, CSIRO and other geoscience organisations.

BMR's major programs are directed towards minerals, petroleum, groundwater, the environment, national geoscience databases and international aid and cooperation. Its main products are geoscientific information maps and advice for government, industry and the wider community.

BMR undertakes land, marine and airborne geoscientific surveys and maintains specialist geochemical, geochronological, organic geochemical, palaeomagnetic and electronic design laboratories in Canberra. BMR's Australian Seismological Centre (ASC) maintains an Australian seismological network which includes observatories at Mundaring (WA), Kowen Forest (ACT), Macquarie Island and Mawson (Antarctica). The ASC is involved in earthquake studies, detection of nuclear explosions and geomagnetic research.

At 31 August 1989, BMR comprised 558 staff including 254 research and other scientists, 178 technical and cartographic staff and 126 administrative and other support staff.

State government assistance

In addition to free assays and determinations of rocks and minerals carried out for prospectors by the Mines Departments of the States and Territories, technical officers of these departments provide advice to the mining and allied industries where required, carry out field examinations of mining prospects, advise on exploration and development, select sites for water supply, and generally give a free technical service to the mining industry.

New South Wales

The Department of Minerals and Energy is a New South Wales Government Department created on 19 October 1988 by the amalgamation of the former Departments of Mineral Resources and Energy. It continues the activities of its predecessors, operating within a new and dynamic organisational structure. The mission established for the department is 'to promote the responsible development, management and utilisation of the mineral and energy resources of New South Wales'. The Department derives its authority and responsibilities from the Acts of Parliament it administers, including the Mining Act, the Coal Mining Act, the Energy Administration Act, the Gas Act, the Electricity Act, the Pipelines Act, and the Petroleum Act. It seeks to encourage and advance the exploration for and assessment of the State's mineral and energy resources and to promote the safe, responsible, effective and efficient provision and use of energy, and production of minerals.

A wide range of services, information and advice is provided on many subjects including geological and geophysical investigations, scientific and chemical research, geological and metallogenic mapping, prospecting, mining legislation and administrative procedures. Additional capabilities are provided by the Mineral Resources Development Laboratory located at Lidcombe, the Mining Museum, one of the State's foremost specialist museums, and the Londonderry Bore Core Library, all of which are administered by the Department.

The Department is engaged in the continuous assessment of the State's mineral and energy resources; its coal resource assessment program, in particular, has identified many significant coal deposits.

Victoria

The Department of Industry, Technology and Resources advises on, monitors, coordinates and implements minerals and energy policy. The Department conducts geological, hydrocarbon and mineral surveys, produces geological maps, and issues scientific and technical reports thereon. Drilling operations are carried out and the results are used in sedimentary basin studies to evaluate petroleum, mineral and ground water potential of the State. The Department's administration of legislation covering petroleum, pipeline, mining and extractive industry activity ensures that Victoria's natural resources (both onshore and offshore) are regulated and controlled. Technical assistance and advice are available to anyone wishing to undertake exploration or prospecting. Information is also available on mining law and mineral statistics.

The Minerals Group of the Department is developing an integrated Geological, Exploration and Development Information System (GEDIS). Its first stage will, in 1989–90, produce a titles and tenement mapping and administrative system, together with geological, bore data and geophysical indexes.

Queensland

The purpose of the Department of Mines is to ensure that Queensland's mineral and energy resources are assessed, developed and utilised to the maximum extent practicable consistent with sound economic, safety and environmental management.

The Department encourages and assists the search for and development of the State's mineral resources, working through a system of permits, leases and licences issued under Acts of Parliament. The Department staff contains qualified experienced professionals including mining engineers, geologists, geophysicists, technical experts in the mechanical and electrical fields, surveyors, cartographers, draftsmen, ecologists, fuel technologists, economists and administrators.

Detailed information of assistance to mineral searchers is collated from in-house geological and geophysical studies and continuous scientific appraisal of results achieved and reported by commercial exploration groups. Over the years this information effort has been underpinned by Departmental drilling for stratigraphic information, resources assessment and applied research.

The Department of Mines carries out continuous inspection on mine safety and provides an expert technical advisory service to the mining industry. Other activities include research on mine safety and health and the administration of safety regulations on gas installations and explosives.

At a time of intense competition among suppliers of resources, the Department of Mines intends to maintain its pre-eminent position as a reliable, efficient and progressive body. To this end it has, in the last two years, undergone major organisational reviews designed to improve the management structure and the program management systems.

The Department currently delivers its services from eight Programs which report to a directorate comprising the Director-General and two Assistant Directors-General. In addition to the comprehensive skills and expertise available within the program management framework, the Department also draws on the skills of specialist advisers.

The Department continues to strengthen existing links with overseas governments, corporations and individual entrepreneurs at the same time as it works to encourage the establishment of new opportunities in mineral and energy resource development. It offers a rapid response to development and investment inquiries, both from within Australia and abroad.

To realise its purpose, the Department is structured along program lines to achieve the following major goals:

Corporate Services
To meet the needs of the Department for administrative support services by providing resource management systems and advice, organisation improvement initiatives and executive support.

Information Services
To satisfy the information needs of industry, government and the community, and to foster awareness and appreciation of the mining industry's significant contribution to the economic well-being of Queenslanders by providing accurate and timely information services and products.

Titles and Tenures Services
To enhance the administration and registration of exploration and mining tenures consistent with the needs of the mining industry, government and the community by providing cartographic, surveying and administration services.

Mineral Resources Development
To facilitate exploration, development and utilisation of Queensland's mineral resources in an environmentally responsible manner, to interpret trade and economic trends and to ensure that industry investment benefits the community by management of exploration and mining tenures, provision of mineral resource information, management of the State's royalty system, and through prompting the perception of mining as a compatible land use in accordance with government policy and sound economic and environmental management, and land use planning.

Safety and Technology
To promote safety, health, technology and environmental management at mines, petroleum and gas operations and installations, and to promote the safe storage, handling and transport of flammable gases and explosives by providing informed advisory and inspection services supported by the community and by a practical legislative framework.

Geological Survey
To provide the geoscientific framework for mineral and energy exploration and the development of the State by expanding knowledge of the geology and energy resources, and the occurrence of geological hazards.

Energy Resources Development and Utilisation

To promote and facilitate exploration, development and efficient utilisation of energy resources in Queensland by managing exploration and mining tenures, identifying opportunities, determining policies and promoting energy-related research and development for the benefit of industry, community and government.

Safety in Mines Testing and Research Station

To improve safety and health in hazardous industries and enhance the development and application of new technologies, while maximising revenue through fee for service and externally funded grants by providing commercial research, testing, calibration, laboratory services and information management expertise and facilities, and by marketing a range of specialised services to meet client needs.

South Australia

The principal functions of the Department of Mines and Energy are to:

- administer mining legislation, including the granting of mineral leases and collection of royalties and fees;
- provide advice to Government and private industry on the exploration, development and processing of the State's mineral, energy and underground water resources;
- ensure that these resources are assessed and developed in accordance with Government policy;
- encourage exploration for mineral and energy resources by private enterprise;
- provide advice to the Government on energy development, utilisation and conservation, including alternative energy sources;
- provide research and specialist services in the geosciences;
- store geoscientific data on South Australia and make it available to the mining and energy industries, other Government Departments and the community;
- ensure that industries which are engaged in resource development adopt effective safety precautions within their operations and that the Government's environmental protection policies are adopted.

The Department has responsibility, through the Minister for Mines and Energy, for administration of legislation relating to Roxby Downs ore deposits, Cooper Basin oil and gas fields and the Stony Point Liquids Project.

Western Australia

The Western Australian Department of Mines carries out the registration of mining tenement titles, the survey of tenements and the subsequent collection of mining royalties. Through its Geological Survey Division, the Mines Department carries out geological investigations and surveys throughout the State. The results of this work are made available in both map and report format. The Chemistry Centre (WA), a division of the Mines Department provides analytical and research services to government, industry and the public. In addition the Department administers legislation relating to the use and transport of explosives and dangerous goods and the safety of workers in the mining and petroleum industries.

Tasmania

The Department of Mines assists industry in maintaining and increasing the value to the State of its mineral and petroleum resources. Companies are required to extract resources in the most complete manner and to minimise environmental impact. The Department is the State's centre for earth sciences and mineral resources. Mineral resource maps, geological maps, mineral exploration data bases and geophysical information are available.

The following services are provided:

- geological and mining engineering advice;
- engineering geology and ground water services;

- chemical and metallurgical laboratories;
- drill and plant hire;
- ore dressing research into metallurgical recoveries;
- selection and design of treatment plants;
- financial assistance is extended to approved mining lessees.

Northern Territory

The Department of Mines and Energy encourages and assists the development of an efficient mining and processing industry throughout the Northern Territory. Through five divisions the Department administers relevant legislation and provides a wide range of services.

Mines Division acts as a single point of contact for all mineral mining related matters in the Northern Territory. In this context it is also responsible for controlling and ensuring the efficient, orderly and safe exploration for, and recovery and utilisation of mineral resources in the Northern Territory. The Division formulates and implements policy and legislation designed to investigate the feasibility of mining and development proposals, provides technical advice to prospecting and mining operations, and strives for compatibility between mining and alternate land uses. It also administers all mining titles and is responsible for the collection of mineral royalties.

The Geological Survey Division provides the essential scientific basis for the overall operations of the Department of Mines and Energy. The Division studies the regional geology and geophysics of the Northern Territory and publishes reports of this work for use by industry, other government departments and the public.

Energy Division is responsible for the development and implementation of energy policies, research into alternative sources of energy, planning of energy supply and consumption in the Northern Territory and for safety and environmental supervision of petroleum exploration. This includes promotion of the exploration for and development of indigenous energy resources, research into diversification of the Northern Territory's energy base, energy conservation and security.

The Alligator Rivers Region Unit is responsible for the oversight and coordination of all stages of uranium mining, milling and rehabilitation processes in the Alligator Rivers Region. The unit is the focal point for the industry and the public for matters concerning uranium mines in the Northern Territory.

The Administration Division ensures effective administration of the Department's functions and responsibilities and provides a range of common services to operational divisions.

Research

Research investigations into problems of exploration, mining, ore-dressing and metallurgy are conducted by government bodies, universities, private enterprise, or by the combined efforts of all these. A summary of their functions follows, for further information on research *see* Chapter 22, Science and Technology.

Amdel Limited

Analysis, contract research and consulting in a broad range of scientific and technical areas is carried out by Amdel Limited. Operations are based in Adelaide, with branches in Perth, Melbourne, Sydney, Darwin and Townsville. Extensive laboratory facilities are available in the fields of analytical chemistry, mineralogy, metallurgy, materials science and petroleum. Mineral process evaluation is carried out at bench and Pilot Plant scale. Services are provided in fields of pollution and environmental control and occupational health and safety. Products are based around nucleonic measurement techniques linked to microprocessors, and include in-stream analysis for the mineral industry, coal slurry analyser, limestone analyser and on-pipe density gauge.

Commonwealth Scientific and Industrial Research Organisation—CSIRO

Minerals research by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is undertaken within the Institute of Minerals, Energy and Construction. The objective of the Institute is to increase the international competitiveness, export earnings, gross domestic product and value of services provided by the minerals, energy and construction industries.

Divisions (and their respective headquarters locations) of the Institute engaged in minerals energy and construction research are the Division of Geomechanics at Syndal (Vic.); the Division of Coal Technology at North Ryde (NSW); the Division of Mineral Products at Port Melbourne (Vic.); the Division of Mineral and Process Engineering at Clayton (Vic.); the Division of Exploration Geoscience at Perth (WA); the Division of Fuel Technology at Lucas Heights (NSW), and the Division of Building, Construction and Engineering at Highett (Vic.). The Institute Headquarters is located in Sydney (NSW).

University research

The various universities in Australia carry out research into various aspects of the mineral industry such as geology, ore mineralogy and genesis, mining techniques, mineral processing, extractive metallurgy, and materials and metals technology.

Research by private enterprise

The Australian Mineral Industries Research Association Limited (AMIRA) is a non-profit organisation which was set up in 1959 by the Australian mineral industry to manage jointly sponsored research and development on behalf of the industry. There are 129 members of AMIRA, drawn from all parts of the mineral, coal and petroleum industries. Membership ranges from small exploration companies to large mining houses and includes suppliers of services to the industry. The policy of the Association is determined by a council elected by members.

AMIRA has no research facilities so organisations such as CSIRO, universities, consultants, suppliers or member companies carry out the research as contractors to AMIRA. Research contracts worth approximately $27 million are being handled by AMIRA.

International Relations

Because Australia is a large supplier of certain minerals to the rest of the world, and because the welfare of the domestic industry depends to a large extent on the maintenance of a high level of exports, international relations are of considerable importance to the industry, and the Commonwealth Government takes an active role in international consultations and discussions relating to minerals. The most important international links are shown below.

Association of Tin Producing Countries—ATPC

The ATPC came into being on 16 August 1983. Membership is open to countries which are net exporters of tin. The current members are Australia, Bolivia, Indonesia, Malaysia, Nigeria, Thailand, and Zaire. Major activities of the ATPC have been directed towards the encouragement of greater consumption of tin through research and development. This resulted in the International Tin Research Institute (ITRI) becoming a subsidiary of the ATPC in 1988. Since 1987, the ATPC has been operating a program of production restraint which, with the cooperation of non-members Brazil and China, is aimed at reducing the excess tin stocks overhanging the market. The scheme was extended for twelve months from January 1990.

International Lead and Zinc Study Group—ILZSG

Australia has been a member of the ILZSG since its formation in 1960. The following countries are also members: Austria, Belgium, Brazil, Bulgaria, Canada, China Czechoslovakia, Denmark, Finland, France, Germany (Federal Republic of), Hungary, India, Iran, Italy, Japan, Korea (Federal Republic of), Morocco, Netherlands, Norway, Peru, Poland, South Africa, Spain, Sweden, Thailand, Tunisia, Union of Soviet Socialist Republics, United Kingdom, United States of America and Yugoslavia.

The main objectives of the Study Group are to provide a forum for intergovernmental consultations and to develop to the maximum extent possible transparency in the international lead and zinc markets.

Government and industry representatives meet annually to discuss developments in the international lead and zinc industry. The Group also undertakes special studies of the world situation in lead and zinc and considers possible solutions to problems unlikely to be resolved in the normal development of world trade. Particular attention is given to statistics on lead and zinc. The Study Group also publishes a monthly statistical bulletin and twice-yearly makes a short term forecast of the supply and demand for lead and zinc.

Association of Iron Ore Exporting Countries—APEF

APEF was established in 1975 with the following membership: Australia, Algeria, India, Liberia, Mauritania, Peru, Sierra Leone, Sweden and Venezuela.

Following the receipt in 1988 of notices of intention to withdraw from the Association by Sweden, Peru and Sierra Leone, the 27th session of the Board, held in March 1989, suspended the activities of the Association indefinitely. Venezuela is holding the secretariat pro tempore until the end of 1990 and the statistical function has been transferred to an independent trust fund within UNCTAD.

UNCTAD Intergovernmental Group of Experts (IGE) on Iron Ore

The UNCTAD IGE on Iron Ore was established in 1986 to discuss impediments to the formation of a producer/consumer forum to stabilise the market for iron ore.

Three meetings of the IGE have been held, the most recent in October 1989, and a further meeting is to occur in late 1990.

In view of the IGE's scant progress towards its initial aim, the group has become a more general market transparency forum, and since the suspension of APEF, the only such forum on iron ore.

International Bauxite Association—IBA

Australia joined the IBA as a founder member in October 1974. Other members are Ghana, Guinea, Guyana, India, Indonesia, Jamaica, Sierra Leone, Suriname and Yugoslavia. Members account for about three-quarters of world bauxite production, with Australia accounting for over one-third of world production.

The objectives of the Association are to promote the orderly and rational development of the bauxite industry; to secure for members fair and reasonable returns from the exploitation, processing and marketing of bauxite and its products for the economic and social development of their peoples, bearing in mind the recognised interests of consumers; and generally to safeguard the interests of member countries in relation to the bauxite industry.

The Association consists of a Council of Ministers which meets once a year, an Executive Board consisting of senior officials which meets three times a year and a Secretariat which is located in Kingston, Jamaica.

The IBA provides members with an opportunity to discuss common problems and evolve cooperative policies to facilitate further development of their bauxite/alumina/aluminium industries. The Association's work is mostly concerned with exchanging views and information on a range of industry matters. The commercial and technical aspects of formulating minimum export prices for bauxite and alumina have received particular attention. Australia has indicated that it is not bound by any decision the IBA might make regarding minimum pricing of bauxite and alumina. The Association publishes a quarterly review.

Mining Industry Statistics

This section contains statistics of the mining industry in Australia, obtained from the annual census of mining establishments. The mining census is conducted throughout Australia on an integrated basis with other economic censuses, e.g. manufacturing, electricity and gas, retail, wholesale trade, construction, transport and selected services establishments.

Statistics are also available for *enterprises* engaged in the mining industry. The latest statistics for mining are in respect of 1984–85 and were published in the *Annual Economic Censuses and Surveys: Enterprise Statistics Australia, 1984–85, Final* (8103.0). A description of the statistics and broad summary tables, in respect of the 1983–84 and 1984–85 censuses and survey are given in Chapter 18.

The following table shows key items of data for establishments in Australia for 1987–88 based on the 1983 edition of the *Australian Standard Industrial Classification* (ASIC).

Mineral Production

This section contains details of the output (quantity and value) of selected minerals produced and the metallic content of ores, concentrates, etc.

The statistics shown have been derived from data collected in the annual mining census and in returns to the various State Mines Departments, supplemented in some cases by information made available by the Department of Primary Industries and Energy and from other sources.

For details of the scope of mineral production statistics and their relation to mining industry statistics, and the principles for measuring the output of minerals, *see Year Book* No. 61 and earlier issues.

Quantity of minerals produced

The following tables show particulars of the quantities of selected minerals produced and contents of selected metallic minerals produced during 1987–88 and earlier years. Further data are available relative to all minerals in the annual publication *Mineral Production, Australia* (8405.0).

MINING ESTABLISHMENTS: SUMMARY OF OPERATIONS, BY INDUSTRY CLASS, 1987–88

ASIC code	at Description	Establish-ments end of 30 June	Employment at salaries June(a)	Wages and (b)	Turnover	Stocks Opening	selected Closing	Total purchases transfers in and Value expenses	less added	Fixed capital expenditure disposals
		No.	No.	$m	$m	$m	$m	$m	$m	$m
	Metallic minerals—									
	Ferrous metal ores—									
1111	Iron ores	15	7,316	283	2,164	122	129	1,023	1,148	123
1112	Iron ore pelletising	2								
	Non-ferrous metal ores—									
1121	Bauxite	9	2,040	67	601	27	56	112	518	15
1122	Copper ores	6	3,030	107	541	69	58	195	334	145
1123	Gold ores	195	8,175	245	2,524	203	360	1,120	1,561	865
1124	Mineral sands	17	1,941	52	456	70	86	148	325	35
1125	Nickel ores	3	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1126	Silver–lead–zinc ores	13	5,237	206	963	114	101	438	512	118
1127	Tin ores	10	468	18	69	15	8	36	26	4
1128	Uranium ores	2	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1129	Non-ferrous metal ores n.e.c.	9	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
11	*Total metallic minerals*	*281*	*31,486*	*1,096*	*8,080*	*904*	*1,082*	*3,244*	*5,015*	*1,342*
	Coal, oil and gas—									
1201	Black coal	103	28,387	1,241	6,498	898	617	2,839	3,378	607
1202	Brown coal	6	2,715	88	386	8	10	60	328	—
1300	Oil and gas	*37*	*4,943*	*218*	*4,273*	*226*	*227*	*371*	*3,902*	*1,684*
12–13	*Total coal, oil and gas*	*146*	*36,045*	*1,547*	*11,157*	*1,133*	*855*	*3,270*	*7,608*	*2,291*
	Construction materials—									
1401	Sand and gravel	352	2,061	49	355	17	18	153	203	23
1404	Construction materials n.e.c.	431	3,849	99	684	64	64	319	365	41
14	*Total construction materials*	*783*	*5,910*	*148*	*1,039*	*81*	*82*	*472*	*568*	*64*
	Other non-metallic minerals—									
1501	Limestone	56	729	17	94	6	7	43	52	5
1502	Clays	91	469	10	41	7	10	25	19	17
1504	Salt	14	589	20	117	21	24	37	83	11
1505	Non-metallic minerals n.e.c.	104	1,525	46	384	93	104	135	260	37
15	*Total other non-metallic minerals*	*265*	*3,312*	*93*	*636*	*128*	*146*	*240*	*414*	*69*
	Total mining (excl. services to mining)	**1,475**	**76,753**	**2,883**	**20,912**	**2,246**	**2,165**	**7,226**	**13,606**	**3,766**

(a) includes working proprietors. (b) Excludes amount drawn by working proprietors.

QUANTITY OF SELECTED MINERALS PRODUCED

Mineral		*1985–86*	*1986–87*	*1987–88*
		METALLIC MINERALS		
Bauxite	'000 tonnes	31,864	33,168	35,142
Copper concentrate	"	n.p.	878	n.p.
Copper ore	tonnes	19,739	22,028	23,748
Gold bullion*(a)*	kg	81,008	112,393	167,486
Iron ore	'000 tonnes	n.p.	*(b)*96,364	*(b)*102,202
Lead concentrate	"	n.p.	n.p.	n.p.
Lead-copper concentrate	tonnes	38,209	28,774	32,763
Lead-zinc concentrate	"	55,534	124,094	178,694
Manganese ore—				
Metallurgical grade	'000 tonnes	1,152	864	1,060
Mineral sands—				
Ilmenite concentrate*(c)*	"	1,272	1,400	1,569
Rutile concentrate	"	n.p.	247	236
Zircon concentrate	"	476	432	469
Nickel concentrate	"	455	406	389
Tantalite-columbite concentrate	tonnes	n.p.	n.p.	n.p.
Tin concentrate	"	n.p.	n.p.	13,667
Tungsten concentrates—				
Scheelite concentrate	"	2,029	1,757	2,001
Wolfram concentrate	"	1,194	232	1
Uranium concentrate (U_3O_8)	"	4,450	4,505	4,193
Zinc concentrate	'000 tonnes	n.p.	n.p.	n.p.
		COAL		
Coal (other than lignite)—				
Saleable coal*(d)*				
Semi-anthracite	'000 tonnes	358	394	284
Bituminous	"	120,398	134,233	122,490
Sub-bituminous	"	13,599	14,096	13,654
Washery rejects*(d)*	"	29,314	33,717	31,333
Lignite—				
For briquettes	"	2,157	2,087	1,956
Other	"	33,312	39,712	41,525
Briquettes	"	851	828	807
		OIL AND GAS		
Crude oil (stabilised)	megalitres	31,669	30,205	31,297
Natural gas	gigalitres	14,274	14,488	14,751
Ethane	"	196	161	189
		CONSTRUCTION MATERIALS		
Sand	'000 tonnes	28,019	29,953	29,465
Gravel	"	18,677	14,952	14,895
Crushed and broken stone	"	70,061	66,772	65,944
Other (decomposed rock, dimension stone, etc.)	"	33,595	30,009	29,382
		OTHER NON-METALLIC MINERALS		
Clays	'000 tonnes	7,911	8,884	n.p.
Limestone (including shell and coral)	"	n.p.	12,338	n.p.
Salt	"	5,735	n.p.	n.p.
Silica	"	n.p.	2,209	2,596

(a) Includes alluvial gold. *(b)* Tasmanian production is in the form of pellets. *(c)* Includes ilmenite from which titanium dioxide is not commercially extractable and beneficiated ilmenite. *(d)* Raw coal is saleable coal plus washery rejects.

CONTENTS OF SELECTED METALLIC MINERALS PRODUCED—*continued*

Contents of metallic minerals produced		*1985–86*	*1986–87*	*1987–88*
Antimony	tonnes	1,262	1,202	1,159
Cadmium	"	2,167	n.p.	n.p.
Cobalt	"	2,918	3,046	2,504
Copper	"	241,706	246,085	n.p.
Gold	kg	64,780	n.p.	n.p.
Iron*(a)*	'000 tonnes	n.p.	61,456	65,080
Lead	tonnes	n.p.	n.p.	n.p.
Manganese	"	n.p.	n.p.	n.p.
Monazite	"	15,538	10,474	10,393
Nickel	"	80,528	74,509	72,231
Palladium	kg	421	490	454
Platinum	"	94	105	82
Silver	"	1,074,227	1,036,905	1,135,073
Sulphur	tonnes	449,706	517,250	531,965
Tantalite–columbite (Ta_2O_5 + Nb_2O_5)	kg	n.p.	n.p.	n.p.
Tin	tonnes	7,391	n.p.	n.p.
Titanium dioxide (TiO_2)	"	1,023,561	954,371	1,457,723
Tungstic oxide (WO_3)	mtu *(b)*	232,253	143,996	149,172
Yttrium oxide (Y_2O_3)	kg	n.p.	n.p.	n.p.
Zinc	tonnes	722,599	n.p.	n.p.
Zirconium dioxide (ZrO_2)	"	331,678	302,789	327,511

(a) Excludes iron content of iron oxide not intended for metal extraction. Includes iron contained in iron concentrate. *(b)* Metric ton unit (mtu) equals 10 kilograms.

Value of minerals produced

The following table shows the value of principal minerals produced during 1987–88 and earlier years. Further data are available in the annual publication *Mineral Production, Australia* (8405.0).

VALUE OF SELECTED MINERALS PRODUCED
($'000)

Mineral	*1985–86*	*1986–87*	*1987–88*
METALLIC MINERALS			
Bauxite	n.p.	n.p.	n.p.
Copper concentrate	341,334	n.p.	n.p.
Copper ore	1,130	1,170	n.p.
Gold bullion*(a)*	944,139	*(b)*1,752,158	*(b)*2,585,011
Iron ore	n.p.	1,884,198	*(b)*1,687,541
Lead concentrate	n.p.	n.p.	n.p.
Lead-copper concentrate	n.p.	42,333	n.p.
Lead-zinc concentrate	7,786	27,261	n.p.
Manganese ore—			
Metallurgical grade	n.p.	n.p.	n.p.
Mineral sands—			
Ilmenite concentrate*(c)*	57,003	88,664	152,246
Rutile concentrate	n.p.	n.p.	133,011
Zircon concentrate	62,441	80,353	n.p.
Nickel concentrate	n.p.	n.p.	n.p.
Tantalite-columbite concentrate	n.p.	n.p.	n.p.
Tin concentrate	89,857	n.p.	n.p.
Tungsten concentrates—			
Scheelite concentrate	n.p.	8,415	n.p.
Wolfram concentrate	6,310	872	4
Uranium concentrate	n.p.	n.p.	n.p.
Zinc concentrate	269,048	n.p.	n.p.

VALUE OF SELECTED MINERALS PRODUCED—*continued*
($'000)

Mineral	1985–86	1986–87	1987–88
COAL			
Coal (other than lignite)—			
Saleable coal—			
Semi-anthracite	10,904	12,730	8,187
Bituminous	4,770,138	5,093,916	*(b)*4,118,386
Sub-bituminous	398,289	n.p.	395,156
Lignite—			
For briquettes	..	..	..
Other	233,912	268,314	301,527
Briquettes	15,714	25,019	18,717
OIL AND GAS			
Oil and Gas	n.p.	3,702,445	4,138,725
CONSTRUCTION MATERIALS			
Sand	161,075	162,127	n.p.
Gravel	109,515	103,126	n.p.
Crushed and broken stone	536,271	493,687	n.p.
Other (Decomposed rock, dimension stone, etc.)	114,191	111,838	n.p.
OTHER NON-METALLIC MINERALS			
Clays	46,257	*(d)*53,156	*(d)*56,451
Gems—			
Diamond	147,568	284,095	248,203
Opal	49,950	67,425	106,077
Sapphire	12,066	16,457	22,841
Limestone (incl. shell and coral)	n.p.	72,075	n.p.
Salt	99,194	n.p.	n.p.
Silica	n.p.	24,815	n.p.

(a) Includes alluvial gold. *(b)* Excludes Tasmanian production. *(c)* Includes ilmenite from which titanium dioxide is not commercially extractable and beneficiated ilmenite. *(d)* Excludes Northern Territory.

Foreign Participation in the Mining Industry in Australia

Summary information on foreign participation in the mining industry in Australia is shown in Chapter 26, Foreign Transactions. More detailed statistics are available in *Foreign Ownership and Control of the Mining Industry, Australia 1984–85* (5317.0) and *Foreign Control in Mineral Exploration, Australia 1984–85* (5323.0).

Mineral Exploration (Other Than for Petroleum)

Definition

Exploration consists of the search for new ore occurrences or undiscovered oil or gas and/or appraisal intended to delineate or greatly extend the limits of known deposits of minerals or oil or gas reservoirs by geological, geophysical, geochemical, drilling and other methods. This includes construction of shafts and adits primarily for exploration purposes but excludes activities of a developmental or production nature. Exploration for water is excluded.

Source of statistics

The statistics of private sector exploration are derived from the quarterly mineral exploration census conducted by the Australian Bureau of Statistics (ABS) in each State and the Northern Territory.

Expenditure

The following table shows expenditure by State on private mineral exploration other than for petroleum in Australia during the last six years.

PRIVATE MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)
($ million)

	1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Expenditure—						
New South Wales	55.6	49.5	51.8	47.6	61.5	51.1
Victoria	11.1	15.2	12.3	15.5	33.9	21.4
Queensland	80.7	79.5	88.6	120.6	159.3	133.4
South Australia	54.4	57.6	48.9	11.0	18.9	16.5
Western Australia	184.7	189.8	205.2	323.3	466.3	392.0
Tasmania	18.0	17.8	10.6	10.9	10.4	15.1
Northern Territory	24.2	28.0	24.6	27.9	48.9	66.9
Australia	**428.7**	**437.3**	**422.0**	**556.8**	**799.2**	**696.5**

The table below shows expenditure on private petroleum exploration in Australia during the last six years.

PRIVATE PETROLEUM EXPLORATION
($ million)

	1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Expenditure—						
Onshore	283.1	419.6	367.8	171.0	271.9	234.5
Offshore	540.6	373.6	398.0	134.1	223.2	407.0
Total	**823.7**	**793.2**	**765.7**	**305.2**	**495.1**	**641.5**

Mineral Processing and Treatment

The extraction of minerals from ore deposits, as in mining and quarrying, is only a part of mineral technology, as few minerals can be directly used in the form in which they are mined. In most cases, minerals must undergo considerable processing and treatment before utilisation.

Principal products

The following table shows particulars of the production of certain important manufactured products of mineral origin during recent years.

PRODUCTION (a) OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN

Commodity		*1986–87*	*1987–88*	*1988–89*
METALS (*b*)				
Non-ferrous—				
Alumina	'000 tonnes	9,840	10,328	10,601
Refined aluminium	"	921	1,074	1,227
Blister copper*(c)*	"	174	180	191
Refined copper	"	171	186	211
Lead bullion (for export)*(c)*	"	183	201	181
Refined lead	"	142	183	184
Refined zinc	"	300	305	303
Refined tin	tonnes	784	501	377
Ferrous—				
Pig iron	'000 tonnes	5,783	5,455	5,875
Precious—				
Refined gold*(d)*	kg	81,856	111,934	169,653
Refined silver	"	270,608	304,426	305,013

PRODUCTION (a) OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN—*continued*

Commodity		1986–87	1987–88	*1988–89*
	FUELS			
Coal products—				
Metallurgical coke	'000 tonnes	3,253	3,727	3,889
Brown coal briquettes	"	811	809	751
Petroleum products *(e)*—				
Diesel-automotive oil	megalitres	8,198	9,399	9,774
Industrial fuel and marine fuel	"	240	229	175
Fuel oil for burning	"	2,274	2,078	2,272
Automotive petrol	"	15,296	15,995	15,913
	BUILDING MATERIALS			
Clay bricks	millions	1,847	1,867	2,142
Portland cement	'000 tonnes	5,920	6,158	6,901
	CHEMICALS			
Sulphuric acid	'000 tonnes	1,678	1,816	1,904
Superphosphate*(f)*	"	2,769	3,194	3,681

(a) Some products exclude production of single establishment manufacturing establishments employing less than four persons and production of establishments predominantly engaged in non-manufacturing activities but which may carry on in a minor way, some manufacturing. *(b)* Excludes secondary metal with the exception of pig iron and steel ingots. *Source*: Australian Bureau of Agricultural and Resource Economics (non-ferrous and precious metals only). *(c)* Metallic content. *(d)* Newly won gold of Australian origin. *(e) Source*: Department of Primary Industries and Energy. *(f)* Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate, i.e. 22 per cent P_2O_5 equivalent.

Overseas Trade

Exports and imports

For particulars of the quantities and values of the principal minerals and products exported from and imported into Australia during recent years, *see* Chapter 26, Foreign Transactions.

Considerable quantities of metallic ores, concentrates, slags, and residues are exported from Australia for refining overseas. The following table shows selected items exported during 1987 and their principal metallic content as estimated by assay.

PRINCIPAL METALLIC CONTENTS OF SELECTED ORES AND CONCENTRATES ETC. EXPORTED FROM AUSTRALIA, 1987

	Metallic contents—estimated from assay							
Ores and concentrates etc.	*Copper*	*Lead*	*Zinc*	*Tin*	*Iron*	*Tungstic oxides*	*Gold*	*Silver*
	tonnes	tonnes	tonnes	tonnes	'000 tonnes	tonnes	kg	kg
Copper concentrate	55,817	809	1,201	238	—	—	3,939	32,643
Blister copper	—	—	—	—	—	—	—	—
Copper *(a)*	1,395	1,110	—	18	—	—	457	12,870
Gold concentrate	3,720	—	—	—	—	—	1,287	639
Lead concentrate	1,621	64,003	6,684	—	—	—	893	197,693
Lead bullion	—	191,234	—	—	—	—	67	501,223
Lead slags and residues	133	826	—	16	—	—	38	2,357
Zinc concentrate	289	13,607	426,508	—	—	—	100	102,221
Zinc slags and residues	—	—	4,506	—	—	—	—	—
Tin concentrate	—	—	—	6,835	—	—	—	—
Tin slags and residues	—	—	—	—	—	—	—	—
Iron ore—								
Pellets	—	—	—	—	1,211	—	—	—
Fines	—	—	—	—	34,895	—	—	—
Lump	—	—	—	—	24,057	—	—	—
Scheelite concentrate	—	—	—	—	—	1,399	—	—
Wolfram concentrate	—	—	—	—	—	2	—	—
Total metallic content	62,975	271,589	438,899	7,107	60,163	1,401	6,781	849,646

(a) Includes copper matte, copper slags and residues and copper–lead dross and speiss.

REVIEW OF RECENT DEVELOPMENTS IN THE AUSTRALIAN MINERAL INDUSTRY

(*Source*: **Australian Bureau of Agricultural and Resource Economics**)

Major recent developments in the Australian mineral industry are reviewed briefly in subsequent parts of this section. Additional information on developments in the industry is available in *Agriculture and Resources Quarterly* (ARQ) and other Australian Bureau of Agricultural and Resource Economics statistical publications.

General review of 1988–89

Australia's Gross Domestic Product (GDP) in 1988–89 was $335,745 million, of which an estimated $24,860 million was generated by the mining industry, excluding metal smelting and refining. The addition of metal smelting and refining adds an estimated $5,841 million to this figure, and at 9 per cent makes minerals including energy and metals the largest primary sector contributor to the GDP.

This broadly defined sector experienced strong growth in 1988–89, as strong world demand for, and lagging supply of, metals fed through to higher prices. The ex-mine value of mine production in Australia in 1988–89 was approximately $16.5 billion. This was around $1.3 billion, or 9 per cent more than the 1987–88 value, and equal to the record level attained in 1985–86, in current dollars. While sector performance was mainly attributable to upward movements in metal prices, it also featured some notable improvements in production volumes. These offset generally declining energy prices and (excluding black coal), declining energy production volumes.

Major minerals to realise improved ex-mine production values were copper, diamonds, mineral sands (ilmenite and zircon), nickel and zinc, while the substantial increase in gold production was offset by an easing in gold price. Major minerals to record significant declines in ex-mine values were crude oil and LPG (declining price and production levels) and lead (price decline).

Exports—1988–89

The value of mineral exports rose by 9 per cent to a new record of $20.5 billion. Major minerals to show gains on their 1987–88 levels included alumina, aluminium metal, copper, diamonds, mineral sands (ilmenite and zircon), nickel and zinc. These improvements generally reflected the world surge in metal prices during the period, but in some cases improvements in export quantities were also significant.

Increased exports of aluminium reflect the continuing trend toward increased value added to resource exports by downstream processing of Australia's raw materials. Diamond export volumes rose significantly (19 per cent) while copper and zircon improved appreciably (10 per cent and 7 per cent respectively). Despite a 29 per cent increase in the quantity of gold exported, the value of gold exports rose by only 2 per cent as a consequence of declining world gold prices.

The energy industries did not fare as well. Decreases in the value of exports were recorded for crude oil, LPG, refined petroleum products, steaming coal and lead. Crude oil, LPG and refined petroleum product revenues fell as a result of both lower world prices and falls in export quantities, while steaming coal revenue fell (in spite of a marginal price improvement) as a result of declining export volumes. The value of lead exports fell by 19 per cent, despite a 7 per cent rise in export volumes, due to falling world prices.

With the sustained global recovery of the steel industry and increased use of steaming coal in electricity generation, black coal, at $4,630 million, remained Australia's single largest export earner, accounting for about 23 per cent of the value of mineral exports. Aluminium was the second largest earner with $2,511 million; gold, $2,456 million; alumina, $2;238 million; zinc, $834 million; and nickel $770 million. These six minerals together accounted for approximately three-quarters of mineral exports and over one-third of the total value of all merchandise exports.

Imports—1988–89

The value of mineral imports continued to be dominated by crude oil and refined petroleum products, although their prominence weakened further. In 1988–89, the value of crude oil imports fell by 16 per cent to $1,183 million, despite an increase of 9 per cent in the quantity imported, reflecting the general weakening of world energy prices. The value of imported refined petroleum products increased by 19 per cent to $747 million, while quantities rose 24 per cent. Crude oil and refined petroleum product imports accounted for almost 70 per cent of the total mineral import bill of $2,786 million ($2,772 million in 1987–88).

Other significant mineral imports included diamonds and gold bullion (primarily for re-export), iron and steel, phosphate rock and sulphur. The volume of diamond imports was significantly down, recording a 35 per cent fall, however their value rose by 25 per cent, reflecting a shift to importation of higher value gem diamonds. Gold imports fell by 69 per cent, to less than one–third of their 1987–88 levels, as a result of declining Australian re-export trade. Iron ore imports rose significantly (a ten-fold increase in quantity and four-fold increase in value) from a low base, due to domestic production problems for specific ore grades.

Australia's mineral balance of trade (value of mineral exports minus value of mineral imports) was a record $17.8 billion in 1988–89 ($16.1 billion in 1987–88), reflecting the strength of world metal prices, which more than offset the effects of declining energy prices.

Pattern of mineral trade—1988

During 1988, Australia exported minerals to more than 100 countries. Japan accounted for 39 per cent of those exports, up from 37 per cent in 1987, which had been the lowest share since 1965. Principal mineral products exported to Japan included alumina, aluminium, black coal, copper, crude oil, gold, iron ore, lead, mineral sands, nickel and zinc.

The share of mineral exports going to Asian countries other than Japan has increased in recent years, and in 1988 accounted for 28 per cent of the total (24 per cent in 1987). The main country destinations and commodities exported were: Korea (aluminium, black coal and iron ore); Hong Kong (black coal and gold); and Taiwan (aluminium, black coal and iron ore).

These figures continue to reflect the trend of increasing Australian trade within the Asian region, with the Asian countries outside Japan providing major trade stimulus while the role of traditional European markets is diminishing. This trend is expected to continue.

The Middle East supplied 30 per cent of Australia's mineral imports by value in 1988 (38 per cent in 1987), while Indonesia provided a further 13 per cent (20 per cent in 1987). Other major suppliers in 1988 were Malaysia (10 per cent), Canada (6 per cent) and the United States (5 per cent). Middle East, Indonesian and Malaysian mineral imports were made up almost entirely of crude oil, while Canada and the United States were major suppliers of sulphur and fertilizers, with Canada also providing nickel and the United States supplying clays and diamonds.

Bauxite, alumina and aluminium

In 1988–89, production of bauxite increased by 6 per cent to 37.3 million tonnes, alumina by about 3 per cent to 10.6 million tonnes, and aluminium by 14 per cent to 1.2 million tonnes. Australia continues to be the world's largest producer of bauxite and alumina.

The value of exports of alumina and unwrought aluminium and aluminium alloys was a record $4.7 billion in 1988–89. Alumina accounted for $2.2 billion of this figure while unwrought aluminium and aluminium alloys comprised the remaining $2.5 billion. Exports of alumina totalled 8.3 million tonnes.

In Western Australia, Alcoa of Australia owns and operates four bauxite mines, Jarrahdale, Del Park, Huntly and Willowdale, with total annual capacity of 17.8 million tonnes. Worsley Alumina owns and operates an integrated operation with a bauxite mine (capacity 4 million tonnes a year) and alumina refinery at Mt. Saddleback near Boddington. The Gove joint venture, also an integrated facility, operates the Gove mine (5.8 million tonnes a year) and alumina refinery in the Northern territory, while Comalco owns and operates the Weipa mine (capacity of 11 million tonnes per year) in Queensland.

In Western Australia, all bauxite production is refined at either Alcoa's refineries at Kwinana, Pinjarra and Wagerup (total capacity 5.5 million tonnes a year) or at the Worsley refinery (1.2 million tonnes capacity a year). In the Northern Territory, bauxite not exported is refined at Nabalco's refinery at Gove (1.6 million tonnes capacity per year). Queensland Alumina operates the Gladstone alumina refinery (2.9 million tonnes capacity a year).

There are 6 smelters in Australia which produce primary aluminium. These are the Kurri Kurri and Tomago smelters in New South Wales; the Point Henry and Portland smelters in Victoria; the Boyne Island smelter in Queensland; and the Bell Bay smelter in Tasmania.

Identified recoverable resources of bauxite at 31 December 1989 were approximately 5,543 million tonnes.

Copper

Australia ranks as the eighth largest mine producer of copper, but accounts for only 3.6 per cent of mine production among the market economies. Nevertheless, copper is an important export earning mineral for Australia. In 1988–89 Australian mine production of copper increased by 21 per cent to 273,000 tonnes, mainly in response to firm prices and strong export demand. The only major new mine capacity to come on stream during 1988–89 was from Western Mining Corporation's Olympic Dam deposit in South Australia.

Refined copper production increased by 14 per cent, to 211,000 tonnes in 1988–89 as smelters, particularly the CRA Port Kembla copper smelter and refinery in New South Wales, increased capacity utilisation rates.

The gross value of copper exports rose by over 40 per cent to $557 million in 1988–89 in response to high prices, increased shipments to Japan and Korea and a slightly weaker Australian dollar.

Identified recoverable resources of copper at 31 December 1989 were approximately 6.5 million tonnes.

Gold

In 1988–89, Australia's gold production increased for the eighth successive year, reaching 721,281 kilograms, the highest since 1905. Australia is now the Western World's third largest producer. Western Australia continued to dominate Australian production and accounted for approximately 70 per cent of all gold produced in 1988–89.

Australia exported 154,590 kgs of gold during 1988–89 with a value of $2.456 billion. Even though the quantity exported increased by approximately 30 per cent on the previous year the value was only marginally higher due to lower world gold prices.

Identified recoverable resources of gold at 31 December 1989 were approximately 1,486 tonnes.

Iron ore and steel

Production of iron ore in 1988–89 declined by nearly 5 per cent to 97.4 million tonnes, primarily due to disruptions to production in key mining operations. Exports grew by 6 per cent to 96.0 million tonnes in response to growth in world steel production. Increased exports were facilitated by a large rundown of stocks.

Australia is the world's fourth largest iron ore producer (behind the USSR, China and Brazil) and the second largest exporter behind Brazil. During 1988–89, work proceeded on the Hammersley Iron/China Metallurgical Import and Export Corporation (CMIEC) Mt. Channar Joint Venture. It commenced operation in January 1990 with an initial annual production rate of 3 million tonnes. Production will be increased, as required, to 10 million tonnes per annum.

Identified recoverable resources of iron ore at 31 December 1989 were approximately 14,300 million tonnes.

Silver, lead and zinc

Mine production of both lead (487,000 tonnes) and zinc (769,000 tonnes) increased in 1988–89 by around 1 per cent on the previous year, while mine production of silver fell by nearly 5 per cent to 1,088 tonnes. Lead production rose slightly as world prices remained firm, while silver production, mainly a by-product of lead mining, fell as a consequence of reduced metal content in ore. Zinc production rose slightly, despite a sharp rise in world prices, due to short-term production capacity constraints.

Production of primary refined lead increased slightly to 184,000 tonnes in 1988–89, while production of primary refined zinc fell slightly to 303,000 tonnes due to production capacity constraints at the two domestic smelters at Cockle Creek and Port Pirie.

The gross value of lead exports declined by 20 per cent to $440 million in 1988–89, mainly due to lower contract prices for lead bullion, while the gross value of zinc exports increased by 43 per cent to $834 million due to higher world prices. The value of silver exports is confidential. However, the total quantity of silver metal exported in all ores, concentrates, intermediate products and in the refined state decreased by 10 per cent in 1988–89.

Estimated identified recoverable resources at 31 December, 1989 were: lead, 11.5 million tonnes; zinc, 20.4 million tonnes; and silver, 21.8 thousand tonnes.

Nickel

Mine production of nickel in ore and concentrates was 64,000 tonnes in 1988–89, down by 7 per cent on 1987–88 (69,000 tonnes). With increased world production, Australia slipped to being the fourth largest world producer behind Canada, the USSR, and New Caledonia. However, new mining projects and expansion of existing mines should lift Australian production substantially in the near future.

Production capacity in Western Australia has risen with the recent re-opening of the old Agnew, now Leinster mine. Proposed expansions of existing mines, together with other new projects at Forrestania, Mt. Keith and Radio Hill, will further lift Western Australian production. The Radio Hill facility will also have an on–site smelter.

Production of nickel ore in Queensland will decline with the closing of the Greenvale mine in 1991–92. Greenvale presently supplies ore feedstock to the Yabulu hydrometallurgical refinery near Townsville. This refinery is presently undergoing a major expansion and future ore supplies will be sourced from Indonesia and New Caledonia.

The value of Australian nickel exports in 1988–89 was $770 million, an increase of 45 per cent over 1987–88 ($530 million). This increase was mainly attributable to the sharp increase in world prices during the period.

Identified recoverable resources of nickel at 31 December 1989 were approximately 1.1 million tonnes.

Mineral sands

Australia is the world's largest producer and exporter of natural rutile, ilmenite, zircon and monazite. Output of concentrates in 1988–89 were: rutile 247,000 tonnes; ilmenite; 1,691,000 tonnes; zircon 513,000 tonnes; and monazite 13,000 tonnes.

Strong demand for mineral sands products resulted in the industry's export earnings rising sharply from $542 million in 1987–88 to $786 million in 1988–89, an increase of 45 per cent. This increase was mainly due to additional processing of ilmenite to synthetic rutile, and processing of synthetic rutile and ilmenite to titanium dioxide pigment before export, together with higher prices for zircon. The value added component of export earnings is projected to continue to rise from 35 per cent in 1988–89.

With the development of a number of new projects, Australia will continue to be the world's leading producer and exporter of mineral sands over the medium term. Most of Australia's expanded production capacity will be in Western Australia where the Cooljarloo, Eneabba and Jangardup deposits are being developed. A further deposit, near Beenup, is currently undergoing a feasibility study. Outside Western Australia, potential mines include the Rocky Point and Bayfield deposits in Queensland, the WIM–150 deposit in Victoria and the Newrybar deposit in New South Wales.

Estimated identified recoverable resources of mineral sands at 31 December 1989 were: ilmenite, 64.2 million tonnes; monazite, 360 thousand tonnes; rutile, 9.4 million tonnes; and zircon, 15.2 million tonnes.

Diamonds

Australia is the world's leading volume supplier of diamonds and accounts for around 30 per cent by quantity of the world's natural diamond production. However, by value it is the world's sixth largest producer behind the USSR, Botswana, South Africa, Namibia and Zaire, due to the relatively low proportion of gem quality stones mined.

Australian diamond production in 1988–89 was 35.1 million carats, the bulk of which (34.5 million carats) were produced at the Argyle diamond mine. This mine is currently undergoing a major upgrade which is expected to increase ore throughput from the present

4.5 million tonnes a year to 6 million tonnes. Diamonds from the AK-1 pipe at Argyle comprise 5 per cent gem quality, 45 per cent near-gem quality and about 50 per cent industrial grades.

While the majority of production (72 per cent) is marketed through the Central Selling Organisation, a significant proportion is now idependently marketed. A cutting and polishing facility has been established in Perth and a large proportion of higher quality gems are now processed in Australia.

The Bow River Joint Venture near Argyle processed 2.5 million tonnes of ore in 1988–89 to produce 0.58 million carats of diamonds. Diamonds from Bow River comprise 20 per cent gem quality, and 80 per cent industrial quality.

Estimated identified recoverable resources of diamonds at 31 December 1989 were: gem and cheap gem, 179 million carats and industrial, 214 million carats.

Black coal

Raw black coal production in 1988–89 was a record 183.5 million tonnes, 9 per cent higher than in 1987–88. The output of saleable coal rose by 10 per cent to the record level 149.3 million tonnes. Domestic consumption rose to the record level of 49.9 million tonnes in 1988–89, mainly due to the growth in use by the electricity and iron and steel industries. Exports fell by 5 per cent to 96.9 million tonnes in 1988–89 and the value of exports fell to $4,630 million. Of total exports 46.3 million tonnes were shipped to Japan.

Demand for steaming coal on the international market has remained high. However, Australian exports of steaming coal fell to 40.1 million tonnes in 1988–89. Coking coal exports declined by less than 1 per cent in 1988–89 compared with 1987–88, to 56.9 million tonnes.

Papers dealing with the Australian coal industry have been published in the *Australian Mineral Industry Quarterly*, Vol. 31, No. 1 and Vol. 34, No. 2.

Uranium

During 1988–89, uranium was produced from the Ranger and Nabarlek operations in the Northern Territory and Olympic Dam in South Australia. Total production for the year was 4,506 tonnes U_3O_8. Uranium exports for 1988–89 were 5,060 tonnes U_3O_8 at an average f.o.b. unit value of $36.12 per pound U_3O_8. The production phase of the Olympic Dam copper–uranium–gold project commenced in August 1988. Although the project has an annual capacity of 1,900 tonnes U_3O_8, production in 1988–89 was 910 tonnes U_3O_8.

Petroleum

In 1988–89 production of crude oil and condensate decreased by 9.6 per cent to 28,255 million litres, LPG production decreased by 4.1 per cent to 3,763 million litres, and total natural gas production rose 3.3 per cent to 15,956 million cubic metres.

Identified recoverable resources of crude oil and condensate at 31 December 1988 were approximately 451,000 million litres, LPG resources were approximately 167,000 million litres and natural gas resources were 2,081 billion cubic metres, of which 1,537 billion cubic metres were located in the Browse and Carnarvon basins off the coast of Western Australia.

Consumption of petroleum products in 1988–89 totalled 40,500 million litres, an increase of 4.4 per cent over 1987–88. Consumption of automotive gasoline (motor spirit) increased by 3.1 per cent to 17,078 million litres, with unleaded gasoline making up 20.7 per cent of total consumption, up from 14.5 per cent the previous year. Consumption of most major products rose in 1988–89, while consumption of industrial diesel fuel, kerosene, heating oil and other minor products all decreased.

Exports of crude oil and other refinery feedstock decreased in 1988–89 by 23.7 per cent to 4,921 million litres, while imports rose 8.7 per cent to 10,409 million litres. The value of net crude oil and other refinery feedstock imports increased by 36 per cent, to $593 million. LPG exports decreased by 9 per cent in volume and 34 per cent in value, to $161 million. The volume of refined petroleum product exports increased by less than 1 per cent to 2,761 million litres, while imports increased by 24 per cent to 4,101 million litres. The value of net refined petroleum product imports rose to $244 million, compared with $67 million in 1987–88.

Expenditure on petroleum exploration and development in Australia in 1988–89 was approximately $2.4 billion. The level of onshore exploration activity was depressed in 1988–89. Offshore activity continued to rise both in terms of the number of wells drilled and the amount of seismic surveying undertaken. In the 1988 calendar year, 243 exploration wells were drilled (211 onshore and 32 offshore). Offshore development activity continued strongly in 1988–89, with the completion of the initial liquified natural gas production and export facilities of the North West Shelf project, to which a total expenditure of $6.4 billion had been committed by mid 1989. There was further development of fields in Bass Strait, the Timor Sea and elsewhere on the North West Shelf.

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WATER RESOURCES

This chapter is divided into two major parts—existing water resources in Australia and the management of these resources. The former provides information on such topics as the geographic background to water resources, surface and ground water supplies and use, and the drainage divisions in Australia. The latter summarises Australian and State assessment and management of water resources.

The information in this chapter is largely derived from the *1985 Review of Australia's Water Resources and Water Use* (published by the Department of Primary Industries and Energy for the Australian Water Resources Council, November 1987, and available from AGPS bookshops).

For information concerning general, descriptive and historical matter *see Year Book* No. 37, pages 1,096–1,141 and *Year Book* No. 51, pages 228–31.

Introduction

Rainfall, or the lack of it, is the most important single factor determining land use and rural production in Australia. Chapter 5, Physical Geography and Climate of Australia contains details on geographical and climatic features that determine the Australian water pattern. The scarcity of both surface and ground water resources, together with the low rates of precipitation which restrict agriculture (quite apart from economic factors), has led to extensive programs to regulate supplies by construction of dams, reservoirs, large tanks and other storages.

Geographic Background

General

Water resources are determined by rainfall, evaporation and physical features including soil, vegetation and geology. Chapter 5, Physical Geography and Climate of Australia, contains a detailed description of the climatic features of the country. A brief description of the landforms appears in *Year Book* No. 61, pages 25–27. In assessing Australia's water resources, dependability and quality of supply must be considered, as well as quantity.

Topography

The major topographical feature affecting the rainfall and drainage patterns in Australia is the absence of high mountain barriers. Australia's topographical features range from sloping tablelands and uplands along the east coast Main Divide, through the low plain and marked depression in the interior to the Great Western Plateau.

Drainage

Only one-third of the Australian land mass drains directly to the ocean, mainly on the coastal side of the Main Divide and inland with the Murray–Darling system. With the exception of the latter, most rivers draining to the ocean are comparatively short but account for the majority of the country's average annual discharge. Surface drainage is totally absent from some arid areas of low relief.

Climate

Australia's large area (7.7 million square kilometres) and latitudinal range (3,700 kilometres) have resulted in climatic conditions ranging from alpine to tropical. Two-thirds of the continent is arid or semi-arid, although good rainfalls (over 800 mm annually) occur in the northern monsoonal belt under the influence of the Australian–Asian monsoon, and along the eastern and southern highland regions under the influence of the great atmospheric depressions of the Southern Ocean. The effectiveness of the rainfall is greatly reduced by marked alternation of wet and dry seasons, unreliability from year to year, high temperatures and high potential evaporation.

Settlement

The availability of water resources controls, to a large degree, the possibility and density of settlement; this in turn, influences the quality of the water through production and disposal of waste. Most early settlements were established on the basis of reliable surface water supplies and, as a result, Australia's population is concentrated along the coast, mainly in the comparatively fertile, well-watered east, south-east and far south-west.

As settlement spread into the dry inland grazing country, the value of reliable supplies of underground water was realised. Observations of the disappearance of large quantities of the rainfall precipitated on the coastal ranges of eastern Australia eventually led to the discovery of the Great Artesian Basin which has become a major asset to the pastoral industry. Development, however, has not been without costs. Significant environmental degradation and deterioration in water quality are becoming evident.

For further information on the influence of water resources on the spread of settlement in Australia *see Year Book* No. 61, page 860.

In the text and tables below, water volume, usage and flow are shown in litres rather than in cubic metres as in earlier issues. Equivalence and terms used are:

(KL) Kilolitres= 1.00 x 10^3 litres (1 cubic metres)
(ML) Megalitres= 1.00 x 10^6 litres
(GL) Gigalitres= 1.00 x 10^9 litres
(TL) Teralitres= 1.00 x 101^2 litres

Surface Supplies

Distribution and volume

As described above, permanent rivers and streams flow in only a small part of the continent. The average annual discharge of Australian rivers has been recently assessed at 398 teralitres (TL) of which 100 TL is now estimated to be exploitable for use on a sustained yield basis. This is small in comparison with river flows on other continents. In addition, there is a pronounced concentration of runoff in the summer months in northern Australia while the southern part of the continent has a distinct, if somewhat less marked, winter maximum.

Variability of flow

Even in areas of high rainfall, large variability in flow means that, for local regional development, most streams must be regulated by surface storage. However, in many areas evaporation is so great that storage costs are high in terms of yield. Extreme floods also add greatly to the cost of water storage, because of the need for adequate spillway capacity.

Potential development

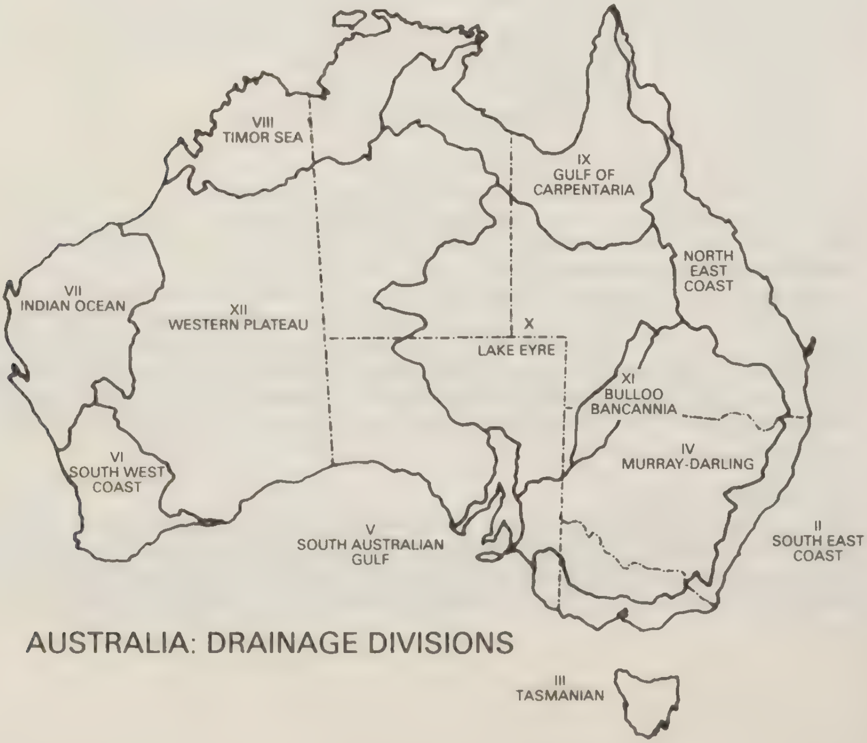
The portion of runoff able to be diverted for use is very low compared to other continents, and results from the high variability of streamflow, high rates of evaporation and the lack of storage sites on many catchments. On an Australia-wide basis, only 21.5 per cent of the divertible resource has currently been developed for use; much of the remaining resource is available in remote regions where development is impractical and uneconomic. In areas such as the Murray–Darling Division, where water is a scarce resource, there are few resources not yet developed, and management is focussing on greater efficiency in water use.

SURFACE WATER RESOURCES AND USE BY DRAINAGE DIVISIONS
(*Source*: Australian Water Resources Council, 1987)

		Surface water resources (teralitres per annum)				
Drainage division		*Mean annual runoff*	*Divertible resource*	*Developed resource*	*Use*	*Use as % of developed resource*
I	North-East Coast	83.9	22.9	3.5	0.97	28
II	South-East Coast	41.9	15.1	4.3	2.03	47
III	Tasmania	52.9	10.9	1.0	0.17	17
IV	Murray–Darling	24.3	12.4	10.0	8.05	81
V	South Australian Gulf	0.9	0.7	0.1	0.23	100 *
VI	South-West Coast	6.7	2.9	0.4	0.38	95
VII	Indian Ocean	4.0	0.3	—	0.00	0
VIII	Timor Sea	80.7	22.0	2.0	0.10	5
IX	Gulf of Carpentaria	92.5	13.2	0.1	0.12	100 *
X	Lake Eyre	6.3	0.2	—	0.01	33
XI	Bulloo–Bancannia	1.1	—	0.00	0.00	0
XII	Western Plateau	1.6	0.1	0.00	0.00	0
Australia		**398**	**100**	**21.5**	**12.06**	**56**

* Includes use of water from unregulated sources.

Drainage Divisions


VIII
TIMOR SEA
IX
GULF OF
CARPENTARIA
NORTH
EAST
COAST
VII
INDIAN OCEAN
XII
WESTERN PLATEAU
X
LAKE EYRE
XI
BULLOO
BANCANNIA
IV
MURRAY-DARLING
VI
SOUTH WEST
COAST
V
SOUTH AUSTRALIAN
GULF
II
SOUTH EAST
COAST
AUSTRALIA: DRAINAGE DIVISIONS
III
TASMANIAN

Ground Water Supplies

About 80 per cent of Australia is significantly dependent on ground water supplies. Australia's estimated sustainable ground water yield is 14.4 TL, and annual ground water usage is estimated at about 2.2 TL.

Ground water is divided according to its occurrence in the three main classes of aquifer:

(i) **Shallow unconsolidated sediments** comprise alluvial sediments in river valleys, deltas and basins; aeolian (windblown) sediments which generally occur in coastal areas; and lacustrine (lake) sediments. These sediments are often highly permeable and porous. Permeability and porosity may vary markedly according to orientation. Unconsolidated aquifers of this group generally occur at depths of less than 150 metres and are often readily accessible to sources of water for recharge. Marked seasonal variations in water level are common.

(ii) **Sedimentary rocks** are generally made up of consolidated sediments. The aquifers owe their porosity to small voids between the grains which are often well compacted and cemented. They often cover significant areas, being continuous and of appreciable thickness. Rock strata usually dip quite gently. Nevertheless, over the full extent of the larger sedimentary basins, aquifers may reach great depths. Areas where recharge takes place may be small in relation to the extent of the aquifers. Water quality in individual aquifers may be quite good and fairly uniform over large areas. Some sediments contain a number of permeable and impermeable layers, creating a vertical sequence of separate aquifers, and water quality may vary greatly between them.

(iii) **Fractured rocks** comprise hard igneous and metamorphosed rocks which have been subjected to disturbance and deformation. Aquifers resulting from the weathering of any rock type are also included in this group. Water is transmitted mainly through joints, bedding planes, faults, caverns, solution cavities and other spaces in the rock mass. The quality of ground water varies considerably and sources are subject to pollution in much the same way as surface supplies. As a general rule, ground water from shallow unconsolidated sediments is of good quality but there are instances where ground water has been polluted, particularly around major urban centres, by sewerage effluent, drainage from refuse tips and from specific industrial pollutants. Supplies from sedimentary basins and fractured rocks are more variable in both quality and quantity, especially in the more arid regions of the continent. High nitrate concentrations tend to be a common occurrence in ground waters in northern and central Australia.

GROUND WATER ESTIMATES OF DIVERTIBLE RESOURCES AND ABSTRACTION BY DRAINAGE DIVISIONS
(*Source:* Australian Water Resources Council, 1987)

		Ground water (gigalitres per annum)		
Drainage division		*Total*	*Abstraction during 1983–84*	*Abstraction as percentage of divertible ground water (%)*
I	North-East Coast	2,010	586	29
II	South-East Coast	1,860	437	23
III	Tasmania	124	5	—
IV	Murray–Darling	2,160	501	—
V	South Australian Gulf	85	56	68
VI	South-West Coast	1,220	296	24
VII	Indian Ocean	508	52	10
VIII	Timor Sea	2,820	15	0.5
IX	Gulf of Carpentaria	1,930	95	5
X	Lake Eyre	619	172	31
XI	Bulloo–Bancannia	100	15	—
XII	Western Plateau	944	9	—
Australia		**14,400**	**2,240**	**15**

(a) The divertible ground water resource is the volume of water that can be withdrawn from an aquifer on a sustained basis without depleting the storage; however in practical operation of many ground water storages 'sustained basis' may mean about 30 years or so, rather than indefinitely.

Water Quality

The quality of surface water in Australia varies greatly and is controlled by climate, geology, stream flow rates, biological activity and land use. Most of the variability is related to water events such as storm flows, floods and drought. Water pollution is generally at a low level compared to other similarly developed countries. The great majority of Australians enjoy domestic, irrigation and recreational waters of good to excellent quality.

Very little is known of the water quality conditions which prevailed prior to European settlement and development in Australia. It is therefore difficult to judge the full impact of urban, agricultural, industrial and mining developments, and the effects that water resource development measures, such as large dams, have had on the quality of the resource. Levels of toxic pollutants have undoubtedly increased, as have the salt and sediment loads of the rivers. While water quality would, at times, have been poor prior to settlement, levels are believed to have generally declined. On the other hand, regulation of major rivers has reduced some of the impacts of floods and droughts.

An increasing appreciation of water quality in recent times has led to improved management. Measurable improvements in water quality over the last decade have resulted from pollution controls in industry and mining, and more effective sewerage treatment. Means of control of pollution from widespread agricultural activity such as problems of salinity and turbidity, are under development.

The major water quality issues and problems faced in Australia are salinity, turbidity, excessive plant and algal growths (eutrophication), and water treatment for small community water supplies. There is also a scarcity of data, information and research on some aspects of water quality and the protection of aquatic species and habitats. Many of the severe pollution problems found in other countries have been avoided in Australia, because of the general absence of highly polluting industries and the location of major cities on or near the coastline enabling ocean disposal of wastes.

Ground water is an important substitute for surface water in many parts of the country such as in the arid interior where the Great Artesian Basin provides the only reliable continuous supply of water for stock and domestic purposes. This Basin underlies 23 per cent of the continent but the high ratio of sodium to calcium and magnesium ions has an adverse effect on soil structure, rendering it impervious and generally unsuitable for irrigation.

Ground water is increasing in importance as a source of water for irrigation, industry and domestic supply.

Increasing use is made of conjunctive schemes, for example, where ground water supplies are tapped to augment surface water or where, as in the Burdekin Delta, ground water aquifers are artificially recharged during the summer wet season to enable water to be stored at low cost with negligible evaporation.

Water Use

Total water use or gross water consumed is the water supplied that is not returned to a stream or body of fresh water or diverted for use a second time. The total water use from 1 July 1983 to 30 June 1984 has been estimated to be 14,600 GL corresponding to an overall per capita use of 2,600 litres per day. Of this total, approximately 70 per cent was for irrigation, 21 per cent was for urban or industrial uses and 9 per cent was for other rural water use. Withdrawals for hydro-electric power have not been included. In terms of sources for the water used, by far the largest proportion (over 80 per cent) of water is drawn from surface water. Ground water sources, although of importance in some regions, account for only a minor percentage of the water used.

PURPOSES OF WATER USE
(Gigalitres)
(*Source*: Australian Water Resources Council, 1987)

	Irrigation				*Urban and industrial*					
Drainage division	*Pasture*	*Crops*	*Horti-culture*	*Total*	*Dom-estic*	*Indust-rial*	*Comm-ercial*	*Total*	*Rural*	*Total*
North-East Coast	71	803	92	966	353	147	41	542	149	1,660
South-East Coast	711	137	176	1,020	747	385	228	1,360	144	2,530
Tasmania	46	47	4	97	33	23	10	66	11	174
Murray–Darling	4,120	2,440	1,090	7,650	225	55	47	327	683	8,660
South Australian Gulf	28	2	45	76	141	24	34	198	38	312
South-west Coast	168	24	75	267	211	74	97	382	30	678
Indian Ocean	0.1	2	7	9	24	17	6	48	8	64
Timor Sea	20	46	5	70	23	13	6	42	16	128
Gulf of Carpentaria	17	45	13	74	15	38	4	57	113	244
Lake Eyre	—	3	—	4	10	4	5	9	113	135
Bulloo–Bancannia	0	0	0	0	—	—	0	—	18	18
Western Plateau	0	—	—	—	9	9	3	21	19	41
Australia	**5,180**	**3,550**	**1,510**	**10,340**	**1,790**	**790**	**481**	**3,060**	**1,340**	**14,600**

Major Dams and Reservoirs

A *Register of Large Dams in Australia* was published by the Australian National Committee on Large Dams in December 1982. The publication included, in chronological order, all large dams completed or under construction up to December 1982. In the list below, only dams with a gross reservoir capacity of more than 100 GL have been included. The list is based on the above publication and supplementary data for the latest years. A further edition of the Register of Large Dams in Australia is in preparation.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA

Name and year of completion	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
	NEW SOUTH WALES			
Eucumbene (1958)	Eucumbene River	4,798	116	H/E, IR, R, U
Hume (1936, 1961)	Murray River, near Albury	3,038	51	H/E, IR, R, U
Warragamba (1960)	Warragamba River	2,057	137	H/E, U
Menindee Lakes (1960)	Darling River, near Menindee	1,794	18	IR, R, U
Burrendong (1967)	Macquarie River, near Wellington	1,678	76	F/C, IR, R, U
Blowering (1968)	Tumut River	1,628	112	H/E, IR, R
Copeton (1976)	Gwydir River	1,364	113	IR, R, U
Wyangala (1936, 1971)	Lachlan River	1,220	85	IR, R
Burrinjuck (1927, 1956)	Murrumbidgee River	1,026	79	IR, R
Talbingo (1971)	Tumut River	921	162	H/E, IR,R,U
Glenbawn Dam (1958, 1987)	Hunter River, near Scone	870	100	F/C, IN, IR, R, U
Jindabyne (1967)	Snowy River	688	72	H/E, IR, R, U
Lake Victoria (1928)	Murray River, near S.A. border	680	—	IR, R, U
Keepit (1960)	Namoi River, near Tamworth	423	55	F/C, IR, U
Split Rock (1986)	Manilla River, Namoi Valley.	370	64	IR
Windamere (1984)	Cudgegong River, near Mudgee	368	69	IR
Glennies Creek (1983)	Hunter Valley, near Singleton	284	65	IN, IR, R, U
Tantangara (1960)	Murrumbidgee River	254	45	H/E, IR, R, U
Avon (1927)	Avon River	214	72	U
Mangrove Creek (1983)	Mangrove Creek, near Gosford	170	80	U
Grahamstown (1969)	Grahamstown, near Newcastle	153	12	IN, U
Lake Brewster (1952)	Lachlan River, near Hillston	150	—	IR, R
Liddell (1968)	Gardiner Creek, near Muswellbrook	148	43	IN
Tallowa (1977)	Shoalhaven River, near Nowra	115	43	U
Googong (1978)	Queanbeyan River	125	62	U, F/C

For footnotes *see* end of table.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA — *continued*

Name and year of completion	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
	VICTORIA			
Dartmouth (1979)	Mitta Mitta River	4,000	180	F/C, H/E, IN, IR, R
Eildon (1927, 1955)	Upper Goulburn River	3,390	79	F/C, H/E, IN, IR, R
Thomson (1984)	Thomson River, near Moe	1,175	164	IR, U
Waranga (1910)	Near Rushworth (Swamp)	411	12	IR, U
Mokoan (1971)	Winton Swamp, near Benalla	365	10	IR
Rocklands (1953)	Glenelg River	348	28	R, U
Eppalock (1964)	Campaspe River	312	45	IR, U
Cardinia (1973)	Cardinia Creek, near Melbourne	289	86	U
Upper Yarra (1957)	Yarra River	207	89	U
Blue Rock (1984)	Tanjil River, near Moe	198	75	IN, U
Glenmaggie (1927, 1958)	Macalister River	190	37	IR
Cairn Curran (1958)	Loddon River, near Maryborough	148	44	IR
Yarrawonga (1939)	Murray River	117	22	IR
Toolondo (1952, 1960)	Natural depression, near Horsham	107	—	IR, R
Winneke (1980)	Sugarloaf Creek, near Melbourne	100	89	U
	QUEENSLAND			
Burdekin (1986)	Burdekin River, near Townsville	1,860	55	IR, U
Fairbairn (1972)	Nogoa River, near Emerald	1,440	49	IN, IR, U
Wivenhoe (1985)	Brisbane River, near Ipswich	1,150	59	F/C, H/E, U
Somerset (1959)	Stanley River, near Esk	866	50	U
Fred Haigh (1975)	Kolan River, near Gin Gin	586	52	IR
Ross River (1974)	Near Townsville	417	35	F/C, U
Tinaroo Falls (1958)	Barron River, near Mareeba	407	47	H/E, IR
Awoonga High Dam (1985)	Boyne River, near Gladstone	250	45	IN, U
Glenlyon (1976)	Pike Creek, near Stanthorpe	261	62	IR
Boondooma (1983)	Boyne River, near Proston	212	64	IN, IR
North Pine (1975)	North Pine, near Brisbane	205	44	U
Koombooloomba (1961)	Tully River, near Innisfail	212	52	H/E
Wuruma (1968)	Nogo River, near Eidsvold	194	46	IR
Eungella (1969)	Broken River, near Eungella	131	49	IN, U, IR
Callide Dam (Stage II) (1986)	Callide Creek, near Bileola	127	35	IR, U, IN
Julius (1977)	Leichhardt River, near Mt Isa	127	35	IN, U
Leslie Dam (Stage II) (1985)	Sandy Creek, near Warwick	108	34	IR, U
Lake Moondarra (1957)	Leichhardt River, near Mt Isa	107	27	IN, U
Beardmore (1972)	Balonne River, near St George	101	17	IR, R, U
	WESTERN AUSTRALIA			
Lake Argyle (Ord) (1971)	Ord River, near Kununurra	5,797	99	F/C, H/E, IR
South Dandalup (1973).	Near Pinjarra	208	43	U
Wellington (1933, 1944, 1960)	Collie River	185	37	IR, R
Serpentine (1961)	Serpentine River	185	55	U
Harding (1985)	Harding River, Pilbara	114	42	IN, U

For footnotes *see* end of table.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA — *continued*

Name and year of completion	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
	TASMANIA			
Lakes Gordon and Pedder (1974)—				
Gordon	South West	11,316	140	H/E
Scotts Peak		2,960	43	
Serpentine			38	
Edgar			17	
Miena (1967)	Great Lake	3,356	28	H/E
Lake St Clair (1938)	Central Plateau	2,000 (est.)	3	H/E
Mackintosh (1981)	Mackintosh River, near Queenstown	949	75	H/E
Tullibardine (1981)	Tullibardine River, near Queenstown		25	
Lake Echo (1956)	Lake Echo	725	19	H/E
Reece Dam (1985)	Pieman River, near Queenstown	641	122	H/E
Arthur's Lake (1965)	Source of Lake River, near Great Lake	511	17	H/E
Lake King William (Clark) (1949, 1966)	Derwent River	541	67	H/E
Devils Gate (1969)	Forth River, near Devonport	180	84	H/E
Rowallan (1967)	Mersey River	131	43	H/E
Bastyan (1983)	Pieman River, near Queenstown	124	75	H/E
Cethana (1971)	Forth River, near Devonport	109	110	H/E
	NORTHERN TERRITORY			
Darwin River (1972)	Darwin River	259	31	U

(a) Includes 'dead water', i.e., water below the operational outlet of the reservoir. *(b)* As a general rule, the figures shown for height of wall refer to the vertical distance measured from the lowest point of the general foundation to the crest of the dam, i.e., the level of the roadway or walkway on the dam.

Abbreviations: F/C—Flood control and/or mitigation, H/E—Hydro-electricity, IN—industrial and/or mining, IR—Irrigation, R—Rural (stock and domestic), U—Urban supplies.

MAJOR DAMS AND RESERVOIRS UNDER CONSTRUCTION OR PROJECTED

Name	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
Crotty Dam	King River, near Queenstown, Tas.	1,091	80	H/E
Proserpine Dam	Proserpine River, near Bowen, Qld	500	45	IR, U
Bjelke Petersen	Barker Creek, near Murgon, Qld	125	33	IR

For footnotes and abbreviations *see* previous table.

Water Management

Australia's water resources are managed by a multitude of irrigation authorities, metropolitan water boards, local government councils and private individuals. State authorities dominate the assessment and control of water resources as, under the Commonwealth Constitution, primary responsibility for management of water rests with the individual State governments. The Commonwealth Government is responsible for matters relating to its Territories, and participates indirectly through financial assistance or directly in the coordination or operation of interstate projects through bodies such as the River Murray Commission. In other instances where political boundaries intersect some river basins, cooperation between governments has been necessary to develop resources.

Australia's attitudes to water resources management have changed substantially over the last twenty years. Water management is no longer seen just in terms of storing water and regulating streams for consumption, but also in terms of conserving unregulated streams in an unmodified landscape for wild life preservation or recreation purposes or for possible social or economic use by future generations. In addition, agricultural, industrial and urban development has led to greater attention being paid to water quality management.

The development of water resources in the States has an important bearing on the Commonwealth's broad interests in economic management, resource allocation, foreign exchange earnings, distribution of income and related matters. Consequently, the Commonwealth has participated in water resource matters in the States in instances of mutual Commonwealth–States concern or in the national interest.

Commonwealth water policy

In September 1984, the Commonwealth released its new water policy. The objectives are to:

- ensure availability of water, adequate in quantity for all beneficial uses;
- adopt measures which improve the efficiency of water supply and use;
- develop a comprehensive approach to inter-related water and land management issues;
- encourage comprehensive long-term plans for the development and management of water resources;
- implement financial and economic policies which distribute the costs of water supplies equitably and provide incentives for the more economic use of resources at government and individual level.

As part of the new water policy, funds are available to the States and the Northern Territory under a program, the Federal Water Resources Assistance Program (FWRAP), which commenced in 1984–85. Funds are available for purposes which include:

- water resource development or management activities/projects for agriculture, urban or industrial purposes;
- floodplain management;
- collaborative information programs;
- salinity reduction and land drainage;
- State-wide and broad regional water plans;
- public education.

The Country Towns Water Supply Improvement Program, which commenced under the Community Employment Program, has been continued as a sub-program of FWRAP.

The Commonwealth also contributes to the expenses of the Murray–Darling Basin Commission under the River Murray Waters Agreement and the Murray–Darling Basin Agreement. This includes the Commission's expenditure on administration, the construction and investigations program related to it's regulatory responsibilities and the Murray–Darling Basin Salinity and Drainage Strategy and Natural Resources Management Strategy.

Australian Water Resources Council—AWRC

The AWRC was established in 1963 by joint action of the Commonwealth and State Governments. The Council consists of the Commonwealth, Northern Territory and State Ministers who have primary responsibility for water resources; it is chaired by the Commonwealth Minister for Primary Industries and Energy.

The Council provides a forum for the water industry. With the shift in emphasis that has occurred in the water industry in recent years from water resource development to resource management and the growing importance of urban water issues generally, the AWRC is extending its scope to focus on industry-wide issues such as pricing and financial policies, resource management, technology and organisational management and strategy. The Council's terms of reference also include the promotion of programs to assess Australia's water resources, the encouragement of education and training in hydrology, the coordination and dissemination of information, the promotion of water research, and development of liaison with overseas and international organisations in the field of water resources.

The Council is supported by a Standing Committee, comprising permanent heads of relevant State authorities and the Commonwealth Department of Primary Industries and Energy. CSIRO and the Bureau of Meteorology are also represented and Ministers can nominate additional representatives in accordance with the requirements of the agenda for each meeting.

Following a review held in late 1984, the Standing Committee is now serviced by four advisory committees which consider issues in water industry planning, surface water and catchments, ground water and water technology. The Council can also establish ad hoc task groups, for advice on particular topics, and is currently being assisted by an Expert Panel on Education and Training, and a National Coordinating Committee on Aquatic Weeds.

Water resources assessment

In 1964, in response to a perceived lack of water resources data throughout much of Australia, the Commonwealth Government instituted, through the AWRC, the National Water Resources Assessment Program. The original aim was to expand the stream gauging network in Australia and increase the level of information on ground water. In 1974, the collection of water quality data was added to the program. The program has been successful in filling many of the data gaps which existed prior to 1964, in providing data and information for water resources planning, construction projects and in the development of the understanding of the nature and function of Australia's water resources. Commonwealth involvement in this program has now ceased. However data collection programs, involving cooperation between Commonwealth and State authorities are continuing in the Murray Basin.

Water resources research

The Department of Primary Industries and Energy is responsible for Commonwealth interests in water resource matters, including research policy and coordination.

A water research program was funded and administered on behalf of the Australian Water Resources Council from 1968 until 1984. In June 1985, the Australian Water Research Advisory Council (AWRAC) was established to advise on national water research needs and on a Commonwealth funded program of water research. Funds totalling $5.9 million were allocated in 1987–88 to research programs recommended by AWRAC. Projects included work on salinity, ground water, stream ecology, water management, water treatment and quality, hydrology and soil or plant–water relations; fellowships; and activities to effectively disseminate the results of research. The Murray–Darling Freshwater Research Centre at Albury and the Urban Water Research Association also received financial support.

In 1988–89 CSIRO spent approximately $10m (from all fund sources) on water resources research, now concentrated in a few Divisions. The Division of Water Resources (resulting from the amalgamation in 1987 of the Divisions of Groundwater Research, Water and Land Resources, and the Centre for Irrigation and Freshwater Research) has a total staff of more than 200 with laboratories in Perth, Adelaide, Canberra and Griffith. The Division's task is to develop new and improved practices for the definition, use, and management of Australia's water resources. The Division of Chemicals and Polymers, based at Clayton, Victoria, is responsible for research on new methods of water and wastewater, purification. The Centre for Environmental Mechanics conducts research on soil–water processes, evapotranspiration and physical limnology. The Division of Fuel Technology carries out research aimed at assessing the impact on natural waters of mining and industrial processing. Research on soil–water processes and erosion is conducted by the CSIRO Division of Soils.

CSIRO is a partner with AWRAC, the River Murray Commission, and the Albury–Wodonga Development Corporation in the Murray–Darling Freshwater Research Centre.

At the State level, water agencies have extensive laboratory facilities for water quality testing. However, most water related research is undertaken in research centres associated with agriculture, fisheries, forestry and environmental authorities. At the regional level, some of the larger authorities providing water supply and sewerage services undertake applied research on a very limited scale.

A significant proportion of Australian water research is undertaken by researchers in tertiary education institutions with the aid of either internal funding or grants from outside bodies, such as AWRAC or the Australian Research Grants Committee. Water research is carried out within a range of disciplines, including the biological and social sciences and engineering.

International Aspects

International water organisations

Australia liaises with international bodies and United Nations agencies concerned with water resources and participates in their activities in various ways.

Economic and Social Commission for Asia and the Pacific—ESCAP
This United Nations Commission, through its Committee on Natural Resources, reports on water policy issues in addition to other activities. By participating in this forum and in seminars arranged on selected topics, Australia contributes to, and benefits from, identification of and discussions on the main problems of water resources management in a densely populated, developing region. Australia is also an active participant in ESCAP's water information exchange system and a contributor to ESCAP's Water Resources Journal and its newsletter, *Confluence*.

Organisation for Economic Co-operation and Development—OECD
Australia's membership of the OECD since 1970 has involved participation in the work of the Environment Committee, particularly the Natural Resource Management Group, the Water Management Group and its Group of Economic Experts, which investigates problems which are the subject of international concern and the development of strategies to resolve them.

United Nations Educational, Scientific and Cultural Organization—UNESCO
Australia has contributed to the international program designed to advance the science and practice of hydrology and the International Hydrology Program (IHP), through an Australian UNESCO Committee for the IHP. Australia is a member of the Inter-governmental Council for IHP.

World Meteorological Organization—WMO
Through its Commission for Hydrology, WMO is the specialised UN agency dealing with operational hydrology—the measurement of basic hydrological elements, water resources

assessment and hydrological forecasting. WMO has an Operational Hydrology Program (OHP) which is coordinated with and complemented by UNESCO's IHP. Within the OHP is the Hydrological Operational Multipurpose Subprogram (HOMS) involving the organised transfer of hydrological technology among members. Australia is a contributor to HOMS and has established a HOMS National Reference Centre within the Secretariat of AWRC. In Australia, hydrological and meteorological activities relative to water resources are coordinated by the Secretary of the AWRC as hydrological advisor to the Permanent Representative of WMO in Australia, the Director of Meteorology.

United Nations Environment Program—UNEP

Australia participates in a world registry of major rivers covering discharge and pollutants and of clean rivers so defined and in the development of methodology for analysis and planning of water resources management.

World Health Organisation—WHO

Australia is participating in the water quality monitoring component of the WHO Global Environment Monitoring System (GEMS) which provides a consistent global overview of changes in water quality.

National and Interstate Agreements

In the section on water management above, reference was made to the responsibilities of government on the national, State and local authority levels. In this section, some additional details are provided on their roles in the management of water resources.

The flows of many of the tributaries to the River Murray which make up the Murray–Darling Basin have been regulated for irrigation and water supply purposes. Approximately 27 GL of storage has been constructed in the Murray–Darling basin. Of this, about 12 GL of storage has been constructed along the River Murray, including the barrages, locks and weirs. With an average annual diversion from the Murray of approximately 4 GL, the degree of resource utilisation is only approximately 40 per cent.

River Murray Waters Agreement/Murray–Darling Basin Agreement

The *River Murray Waters Act 1915* ratified an Agreement between the Commonwealth and the States of New South Wales, Victoria and South Australia. *Year Books* prior to No. 39 contain a number of summaries of the historical events leading to the Agreement of 1914 which provided, among other things, for a minimum quantity of water to pass to South Australia. Further details on the River Murray Waters Agreement and subsequent amendments may be found in *Year Book* No. 61, pages 870–2.

The River Murray Commission was established in 1917 to give effect to the Agreement. The main role of the Commission was to manage and regulate the Murray so that its water resources could be efficiently shared between the three States on the River, within the limitations of the River Murray Waters Agreement. It also had responsibility for management of the catchment above Hume Dam and for the management of the flow of water in the Darling River below Menindee Lakes.

From its establishment through to the end of the 1930s, the Commission coordinated the construction of Hume and Lake Victoria storages, Yarrawonga Weir, and weirs and locks along the Murray from Torrumbarry, below Echuca, to Blanchetown in South Australia. In 1940, the Murray Mouth Barrages, and Maude and Redbank weirs on the Murrumbidgee, were completed. Dartmouth Dam, the most recently constructed major structure in the system, was completed in 1979. Four storages, 16 weirs (13 with locks) and five barrages were involved in the regulation of the Murray by the Commission.

The role of the River Murray Commission evolved over the years, and the River Murray Waters Agreement was amended, as community requirements of the River changed. In the 1930s, following the Great Depression and the demise of the river trade, the main emphasis of River regulation shifted to irrigation. From the 1940s, when water began being piped from the Murray for urban and industrial supplies in the 'Iron Triangle' and later to Adelaide, regulation had to ensure that these requirements were also met without delay. It was not until 1982, however, that an amendment to the River Murray Waters Agreement authorised the River Murray Commission to monitor and consider water quality in its operations. The amendment also enabled the Commission to have regard to the possible effect of its decisions on any river or water management objective. These could include environmental or recreational objectives. Before 1982, areas of management, other than water quantity and River regulation, were entirely State responsibilities.

On 1 January 1988, the River Murray Commission was replaced by the Murray–Darling Basin Commission, which assumed all of the responsibilities of the River Murray Commission. In addition, it is responsible for advising the Murray–Darling Basin Ministerial Council on water, land and environmental matters in the Basin. The River Murray Waters Agreement has been amended by the Murray–Darling Basin Agreement. This evolution has come about following an increased awareness that land, water and vegetation are interrelated and that it is undesirable to isolate the management of one resource, or one part of the Murray–Darling Basin, from others. A major outcome of these new arrangements has been the development of a Natural Resources Management Strategy for the Basin to address key resource degradation issues.

New South Wales–Queensland Border Rivers Agreement

As a result of an Agreement between the Premiers of Queensland and New South Wales, Acts were passed by the Parliaments of both States in 1946 and 1947 respectively, establishing the Dumaresq–Barwon, Border Rivers Commission. The Commission is responsible for the conservation and equal sharing of the waters of the Dumaresq River upstream of Mingoola, the regulation of the border rivers downstream of Mingoola and the equitable distribution of the waters of the streams which intersect the Queensland–New South Wales border west of Mungindi.

The duties of the Commission include measurement of stream flows; investigation of proposals for better conservation, regulation and distribution of water resources; and construction and maintenance of dams, weirs, regulators or other works for the storage, regulation and distribution of flows.

The Commission has constructed Glenlyon Dam on Pike Creek in Queensland which has a storage capacity of 254 GL, and a number of regulators and other water distributory works on the river systems under its control.

Snowy Mountains Hydro-electric Scheme

The Snowy Mountains Scheme is a dual purpose hydro-electric and irrigation complex located in south-eastern Australia and on its completion was one of the largest engineering works of its type in the world. It impounds the south-flowing waters of the Snowy River and its tributary, the Eucumbene, at high elevations and diverts them inland to the Murray and Murrumbidgee rivers through two tunnel systems driven through the Snowy Mountains. The Scheme also involves the regulation and utilisation of the headwaters of the Murrumbidgee, Tumut, Tooma and Geehi rivers.

The Scheme was designed and constructed by the Snowy Mountains Hydro-electric Authority, a statutory body established by the Commonwealth Government in 1949, and was substantially completed by 1974. Its installed generating capacity is 3,740 MW and its average annual electricity output is over 5,000 GWh. An average of 2,300 GL of water per year has become available for irrigation in the Murray and Murrumbidgee rivers as a result of the Scheme.

Details of the Scheme are given in a special article, included in *Year Book* No. 70, pages 430–6.

The Snowy Mountains Council, constituted of representatives of the Governments of the Commonwealth, New South Wales and Victoria and the Snowy Mountains Hydro-electric Authority, was established on 2 January 1959. Its main functions are to direct and control the operation and maintenance of the permanent works of the Snowy Mountains Scheme, in particular the control of water and the allocation of loads to generating stations.

States and Territories

The foregoing text deals with water conservation and irrigation in Australia generally and with international, national and interstate aspects. The following material covers the local pattern of water resources and the steps taken by the State governments to bring about their development. In the various States, water policies tend to assume a distinctive and characteristic pattern closely allied with climatic conditions and specific local needs.

In Victoria, almost every form of water scheme is in operation. In New South Wales, the management of irrigation water supplies is an area of major emphasis, with approximately two-thirds of a million hectares under irrigation. In Queensland, up to the present, the predominant emphasis has fallen on water (mainly underground sources) for stock and the development of small irrigation schemes in sub-humid and humid areas, principally to stabilise production of such crops as tobacco, sugar, cotton and pastures. Apart from regular irrigation practices along the Murray River, South Australian authorities are vitally concerned with reticulated supplies for rural areas and towns. Western Australia has developed unique rock catchments and piped supplies for agricultural areas and towns in dry districts. Tasmanian interest relates almost exclusively to hydro-electric generation. The Northern Territory is concerned primarily with water supplies for population centres and mining and pastoral industries.

New South Wales

Administration

The New South Wales Department of Water Resources was set up in 1987, succeeding the previous Water Resources Commission. The Department is responsible for maximising the long term benefits of the State's water resources to meet the changing diversity of water uses and values of the community. Main responsibilities of the Department are to coordinate policies and programs of State and local government authorities providing water supplies and other water services; plan for future water needs; operate the rural water supply network; control the use and management of surface water and ground water resources through water licensing and transfer systems; provide floodplain management and flood mitigation services in non-tidal areas; provide for wetlands, wild and scenic rivers and instream or environmental water needs; improve water quality; control salinity; maintain water resource assessment programs; and effectively manage the State's water infrastructure.

Water use

Irrigation takes up the largest volume of consumption water use in NSW, on average 75 per cent, with urban water consumption in Newcastle, Sydney and Wollongong taking up the bulk of the remaining 25 per cent.

Urban water

Major metropolitan urban water supplies are managed by central water boards at Newcastle and Sydney. Water sources for major cities of Sydney and Wollongong are good quality rivers and associated storages on the Hawkesbury, Georges and Shoalhaven Rivers. Newcastle's water supply is taken from the Chichester and Grahamstown Reservoirs and from ground water in coastal sandbeds. Country towns develop their own water supply systems ranging from run-of-river pumping to ground water extractions, to dams built specifically for urban water supply. Metropolitan water authorities are increasingly managing urban water demand to reduce water consumption by a range of mechanisms including pricing and persuasion. Drought management and asset management are more recent areas of concern for metropolitan water utilities who are also increasing their interest in balanced environmental management of water supply catchments.

Irrigation

The bulk of irrigation in New South Wales is within the Murray–Darling Basin, the centre of recent Commonwealth/State initiatives in land and water management to reduce salinity problems. Twenty four storages, including four shared with Victoria and South Australia and one shared with Queensland, regulate water supplies in the Basin.

Two main irrigation arrangements exist. Statewide, licensed irrigation occurs where licensees take water from rivers, usually by pumping at their own cost. Around 1.5 million megalitres per annum is used in this way.

Irrigation Areas and Districts form the second type of irrigation. These are located on the three southern inland rivers —the Murray, Murrumbidgee and Lachlan and include over 6,300 farms and holdings covering nearly 1.4 million hectares. About a third of this area is usually irrigated using 1.4 million megalitres per annum. Extractions from licensed high-yielding bores now approach 300 gigalitres per annum.

The annual gross value of production in the Murray–Darling system is around $750 million, about 20 per cent of the State's total agricultural production. Nevertheless the growing extent of land degradation and salinisation in the Murray-Darling Basin is reducing productivity and increasing costs of production.

Future planning and programs

With large dams on all the main inland rivers in NSW, few further major irrigation storages are likely to be constructed. Water resources management is now focussed on improved management and efficiency in water allocation supply and use both in the urban and rural environments.

Improving water use efficiency is one management target for the irrigation sector and heavy industry. This is being achieved throughout the State through improved rural water delivery systems, management of urban water demand, and monitoring of agricultural and urban water losses. In the rural sector transferable water rights, licensing and variable water allocations serve to increase water use efficiency.

Ameliorating waterlogging and salinisation of farming lands is an environmental management priority for the Commonwealth and States, and NSW is pursuing this through a State funded SALTACTION initiative and through the Murray–Darling Basin Ministerial Council. For further information on salination see special article *Salinity—An Old Environmental Problem* in this *Year Book*. NSW is achieving the integration, coordination and consultation required in developing land and water management on a catchment basis including policies of a range of State agencies. Floodplain management and flood irrigation programs are being continued. Policies addressing State Wetlands, State Rivers, and Groundwater are being prepared. Aspects of development such as intensive cattle feed lots are being promoted vigourously, while potential for water quality inputs are being closely monitored.

Victoria

Administration

Water resources in Victoria are administered by three major agencies, the Department of Water Resources, the Melbourne Metropolitan Board of Works and the Rural Water Commission. The Department of Water Resources is the central policy and planning agency providing advice to the Minister of Water Resources on matters of State-wide interest. The Melbourne Metropolitan Board of Works is a statutory corporation responsible for providing water, sewerage, main drainage and managing waterways and metropolitan parks for the people of Metropolitan Melbourne. The Rural Water Commission is a public business authority whose primary mission is to sell water and water related services for irrigation, domestic and stock, commercial, industrial, recreational, environmental and other beneficial uses in rural areas throughout Victoria.

Rural water supply systems

- **Goulburn–Campaspe–Loddon.** The main storage is Lake Eildon with a capacity of 3,390 gigalitres. The main products in these systems are dairy products, fruit, wool and fat lambs. Annual production of deciduous canning fruits in the eastern part of the system is about two thirds of Australia's total.
- **Murray River System.** The Murray Valley Irrigation Area and the Torrumbarry Irrigation System are irrigated by water diverted at the Yarrawonga and Torrumbarry Weirs respectively. These areas are devoted mainly to dairying, fat lambs, fruit, vineyards, orchards and market gardens. Downstream from Swan Hill, the First Mildura Irrigation Trust and four Commission Districts are supplied by pumping, and produce mainly dried vine fruits, citrus fruits and table and wine grapes.
- **Southern Systems**. The Macalister district, supplied from the Macalister River and regulated by Lake Glenmaggie, is devoted mainly to dairying.
- **Werribee and Bacchus Marsh.** These districts produce fresh fruit, vegetables and dairy products mainly for the local domestic market. Irrigation is supplied from the Werribee River system which is regulated by three main storages: Pykes Creek Reservoir, Melton Reservoir and Lake Merrimu.
- **Wimmera–Mallee Domestic and Stock Supply System**. Storages in the Grampian Ranges ensure farm water supplies for dry land, pastoral and cereal farming in the Wimmera and Mallee. There are small areas of irrigation supplied from this system near Horsham and Murtoa.

Future programs

Proposed capital works expenditure by the Rural Water Commission continues to place increasing importance on infrastructure replacement and rehabilitation, urban water services, waterways and floodplain management, environmental protection and water quality improvement. Major provisions in the program include:

- rehabilitation of headworks—Glenmaggie, Coliban, Melton and Cairn Curran;
- replacement, rehabilitation and extensions of rural water supplies, including drainage, and salinity control works.

Queensland

Administration

The control of surface and underground water is exercised by the Commissioner of Water Resources on behalf of the Crown through the licensing of all artesian bores, sub-artesian bores within districts declared for the purpose, and works for the conservation and use of surface water together with the issuing of permits for domestic and stock water use.

In respect of the water resources of the State, the Commission is required to prepare a complete description and keep a record of naturally occurring surface and underground water; take steps to protect the resources from factors likely to be detrimental to their quality or diminish their quantity; investigate and survey any natural water resource; coordinate the investigation, evaluation and development of plans for the control of floodwaters and mitigation of flood damage; construct and manage works for the conservation, replenishment, utilisation and distribution of water; provide advice to local authorities in relation to water supply, sewerage, drainage, flood mitigation and swimming pools; and provide an extension and design service for on-farm development of water resources.

As the water resource assessment and planning authority, the coordination of this resource is ensured, for the net benefit of the community. This includes rural, urban, industrial, mining and other users to bring the overall planning together for continuity. The Commission assesses the water resources and determines how these can best satisfy present and future demands for water related activities. The Commission develops, manages, operates and maintains all State owned water conservation works, having an overall management role at the broad resource level as well as in day-to-day activities of many areas.

Summary of schemes

Approximately half of the area irrigated in Queensland now uses water from storages constructed by the Water Resources Commission. The balance is irrigated from unsupplemented surface or underground supplies spread widely throughout the State. Because of the predominance of irrigation by private diversion from streams, as opposed to channel systems delivering water to farms, most of the storages release water to maintain supplies downstream.

Irrigation areas and projects

Approximately one-third of the area irrigated in Queensland each year is concentrated in eight Irrigation Areas constituted under the Irrigation Act where the supply is generally reticulated by channel systems to the farms. Irrigation projects are schemes established under the *Water Act 1926–1983*, where water is released from storages to maintain supplies for pumping under licence to land adjacent to the streams. Details of the projects are set out in the accompanying table.

IRRIGATION AREAS AND PROJECTS, QUEENSLAND, 1988–89

	Authorised allocation				*Actual use*		
	Irrigation		*Other uses (a)*				
	Outlets	*Allocation*	*Outlets*	*Allocation*	*Irrigation*	*Other uses (a)*	*Area irrigated*
	No.	megalitres	No.	megalitres	megalitres	megalitres	hectares
Irrigation Areas—							
Bundaberg	3,260	206,748	6	13,053	*(b)*92,709	8,995	42,293
Burdekin River	272	70,927	80	74	*(c)*46,525	33	10,240
Dawson Valley	307	43,765	9	2,915	20,453	2,591	5,084
Emerald	195	84,476	3	6,080	65,525	3,568	14,048
Eton	428	35,000	30	1,024	4,446	7,878	11,100
Lower Mary River	151	15,951	—	—	2,069	—	3,400
Mareeba–Dimbulah	1,205	81,279	689	113,739	51,855	407,480	13,578
St George	296	55,629	1	2,500	*(d)*92,072	2,573	11,556
Sub–Total	*6,114*	*593,775*	*818*	*139,385*	*375,654*	*433,118*	*111,299*
Irrigation projects—							
Awoonga–Callide Pipeline	—	—	1	—	—	5,970	—
Bedford Weir (Company Pipelines)	—	—	15	5,043	—	3,366	—
Bingeang Weir (Company Pipelines	—	—	27	10,257	—	7,802	—
Blackwater water Supply System	—	—	26	6,768	—	5,761	—
Bowen–Broken Rivers	4	1,876	42	18,852	7	8,977	20
Boyne River	66	12,611	—	—	6,556	—	1,100
Callide Dam	361	29,521	3	5,096	19,961	10,604	10,713
Chinchilla Weir	31	3,132	1	1,160	935	527	890
Dumaresq River	178	62,744	5	1,525	*(d)*42,527	1,435	8,641
Fitzroy River Barrage	140	12,300	—	—	*(d)*2,858	—	n.a.
Logan River	162	11,145	6	4,064	3,086	1,461	3,906
Lower Lockyer	189	11,412	—	—	6,143	—	4,300
Macintyre Brook	151	18,210	1	450	6,698	309	2,580
Mary Valley	270	12,800	4	6,014	5,272	3,802	2,920
Tarong Water Supply System	—	—	19	25,847	—	26,275	—
Three Moon Creek	131	11,253	1	501	4,293	401	3,000
Upper Burnett	270	27,677	4	1,550	18,035	1,286	2,800
Upper Condamine	111	15,324	3	3,328	*(d)(e)*25,583	2,160	7,400
Warrill Valley	418	19,204	6	9,380	9,616	3,627	8,170
Sub–Total	*2,482*	*249,209*	*164*	*99,835*	*151,570*	*83,763*	*56,440*
Total	**8,596**	**842,984**	**982**	**239,220**	**527,224**	**516,881**	**167,739**

(a) Comprises urban, industrial, rural water supply, stockwater and other uses. *(b)* Includes 27,086 ML pumped from groundwater. *(c)* Includes 12,164 ML pumped from groundwater. *(d)* Includes water harvesting. *(e)* Includes 3,278 ML pumped from groundwater.

Underground water supplies

The availability of underground water, particularly the Great Artesian Basin, has played a major part in the development of the pastoral industry in Queensland. Underground water is also used extensively for irrigation on individual farms, particularly along the coastal fringe, and for domestic purposes. Some 45 per cent of the area irrigated in Queensland receives its supplies from underground sources. In accordance with the requirements of the *Water Resources Administration Act 1978–1984* the investigation of the availability of underground water is being pursued by geological mapping, investigation drilling and hydro-geological assessment. The predominant areas where water from this source is used for irrigation are the Burdekin Delta, Condamine Valley, Bundaberg, Lockyer Valley, Callide Valley and Pioneer Valley.

Groundwater supply and drainage schemes

The Water Act provides for the constitution of an area for various works including water supply for stock, domestic and irrigation purposes, drainage and improvement of subterranean water supplies and the creation of a Board to administer the area.

Nineteen Drainage schemes, 57 Bore Water areas and 24 Rural Water Supply schemes are in operation.

Western Australia

Administration

The Water Authority of Western Australia controls the majority of water-related services in Western Australia. It was constituted under the provisions of the *Water Authority Act 1984*, and administers 8 other Acts and associated by-laws and regulations.

The Water Authority is responsible, under the control of the Minister for Water Resources, for the general administration of the Act. An eleven-member Board of Management controls the Authority's operations and reports to the Minister.

The Water Authority is responsible for the following water related services: water supply in the Perth metropolitan area and the majority of country towns; water resources assessment and management throughout the State; Government irrigation schemes; sewerage schemes in the Perth metropolitan area and several country towns; major drains in the Perth metropolitan area and drainage in several country areas.

Water supply

Western Australia has a great variation in the size and complexity of water supply schemes, which range from town schemes serving fewer than 50 people to the Perth metropolitan scheme serving a population of 1,072,000.

The table which follows shows the principal water storages in Western Australia.

Considerable use is made of ground water by individual farmers, pastoralists, market gardeners, etc., and it is estimated that over 92,000 bores are in use in the State. Both artesian and non-artesian sources are used to supply or augment the supplies of numerous towns, including such major centres as Perth, Albany, Bunbury, Busselton, Carnarvon, Dampier, Esperance, Exmouth, Geraldton, Karratha and Port Hedland. In a number of mining towns in the north-west, mining companies are responsible for the provision of their own water supplies. Industries also use ground water in substantial quantities, particularly in the processing of titanium, iron and alumina.

RESERVOIRS—STORAGE CAPACITY (a)
(Megalitres)

Reservoir	*Storage Capacity*	*Reservoir*	*Storage Capacity*
Canning *(b)*	90,500	Samson Brook	9,170
Churchman Brook *(b)*	2,200	Serpentine Pipehead *(b)*	2,640
Drakes Brook	2,290	Serpentine *(b)*	194,500
Fitzroy	4,650	17-Mile Dam *(c)*	5,489
Glen Mervyn	1,490	South Dandalup *(b)*	208,200
Harding	63,800	Stirling	56,123
Harvey Weir	9,126	Victoria *(b)*	860
Kununurra Lake (Ord River)	97,400	Waroona	14,954
Logue Brook	24,300	Wellington	184,900
Mundaring	77,000	Wungong *(b)*	60,000
Lake Argyle (Ord River)	5,797,000		

(a) At 30 June, 1989. *(b)* On Uralla Creek, an anabranch of the Fitzroy River. *(c)* Serves the Perth Metropolitan Area.

Perth metropolitan water supply

Perth is supplied from a number of dams and pipeheads in the Darling Range and from ground water schemes located on the Swan Coastal Plain. Water gravitates or is pumped from these sources to service reservoirs and tanks located at high points over the metropolitan area for gravity feed to consumers. Perth's water consumption is currently about 194 gigalitres per year and is increasing.

Country water supplies

The Water Authority is responsible for all town water supply schemes in the country towns of Western Australia, with the exception of the Bunbury and Busselton schemes which are run by local Water Boards. There are also a small number of town water supply schemes operated by mining companies. Individual water supplies serve railways, timber mill towns, isolated mines, pastoral properties, stock routes and agricultural areas, mainly from dams, tanks, wells and bores.

In country areas total control has been exercised on ground water usage in Broome, Gascoyne, Swan and South West Coastal Ground Water areas. The control of other areas has been tailored to the specific problems known to exist.

- **Goldfields and Agricultural Areas Water Supply.** This scheme provides water from Mundaring Reservoir to consumers in the Central Agricultural Areas and the Eastern Goldfields.
- **West Pilbara Water Supply Scheme**. The West Pilbara Water Supply serves the towns of Dampier, Karratha, Wickham, Point Samson and Roebourne as well as the industrial complexes at Dampier, the Burrup Peninsula and Cape Lambert. Water is supplied exclusively from the Millstream aquifer and the Harding Dam.
- **Geraldton Regional Water Supply Scheme**. The Geraldton Regional Water Supply serves consumers in the towns of Geraldton, Dongara, Port Denison, Mullewa, Walkaway, Eradu and Narngulu with water being drawn from the Wicherina, Allanooka and Wye Springs borefields.
- **Great Southern Towns Water Supply.** This scheme provides water to the coal mining town of Collie together with towns and farmlands in the Great Southern Area. Water is drawn from Wellington Reservoir, which has a capacity of 185 million kilolitres, and supplied to towns from Brookton and Kondinin in the north to Kojonup and Gnowangerup in the south and to 600,000 hectares of farmland.
- **Port Hedland Regional Water Supply Scheme**. The Port Hedland Regional Water Supply provides water for the consumers of Port Hedland and South Hedland from the complementary De Grey and Yule River borefields.

- **Lower Great Southern Towns Water Supply Scheme**. This scheme supplies the towns of Albany, Mt Barker and Kendenup. Water is drawn from three sources; Two Peoples Bay east of Albany (from which the water is treated for colour removal), Limeburner's Creek and bores which are located on the west of Princess Royal Harbour.
- **Mandurah Regional Water Supply Scheme.** This scheme provides water to the town of Mandurah and areas to the south and east. Approximately 90 per cent of the water consumed is supplied by gravity from the South Dandalup Dam with the remainder supplied from bores at Ravenswood.
- **Supplies to other country towns.** Nearly 150 towns are supplied with water from stream flow, dams, tanks, wells and bores, the schemes being administered under the provisions of the *Country Areas Water Supply Act 1947*.

The Water Authority is responsible for the provision and maintenance of tanks and wells as a source of cartage water for farmers and a number of small communities in gold mining and agricultural areas.

The Water Authority also undertakes design and construction of water services for Aboriginal communities on behalf of the Commonwealth Department of Aboriginal Affairs. The Authority assists communities in operating and maintaining schemes and training community operators.

Irrigation schemes

The Water Authority is responsible for the operation and maintenance of 7 irrigation and 15 drainage schemes throughout the State from Albany in the south to Kununurra in the north.

Irrigation schemes have been established by the State Government on the coastal plain south of Perth in the Waroona, Harvey, Collie River and Preston Valley Irrigation Districts between Waroona and Donnybrook, the water being channelled from dams in the adjacent Darling Range.

There is a thriving plantation industry situated at Carnarvon near the mouth of the Gascoyne River. This centre is one of the major producers in Western Australia of tomatoes, watermelons, pumpkins, cucumbers, capsicums and runner beans. Carnarvon also supplies capsicums, zucchinis and pumpkins to the eastern States. It produces over half the bananas consumed in Western Australia as well as limited supplies of citrus fruit, mangoes and avocados.

The rainfall at Carnarvon is extremely variable and averages little more than 230 millimetres per annum. Agricultural development has been made possible only by irrigation with ground water. Water is obtained from the growers' own irrigation pumping plants and from the Government-controlled Carnarvon Groundwater Supply Scheme which is supplied from bores along the Gascoyne River.

The Ord Irrigation Project provides for the ultimate development of 72,000 hectares of clay soils and additional areas of sandy soils adjoining the clays. Water is currently supplied to 14,000 hectares.

South Australia

Administration

All major water resources and most public water supply schemes in South Australia are administered by the Engineering and Water Supply Department under the various statutes mentioned below.

- The *Waterworks Act 1932*, which empowers the Minister of Water Resources to impound or divert the water from any lake, watercourse or underground source for the purpose of establishing and maintaining public water supply schemes to serve proclaimed water districts throughout the State.
- The *Water Conservation Act 1935–1975*, provides for the control of small reservoirs, bores, tanks, etc. established in remote areas as emergency water supplies or to assist local development.
- The *Murray–Darling Basin Act 1988* (which replaces the *River Murray Waters Act 1983*) ratifies the Murray–Darling Basin Agreement of October 1987. The Department is the delegated constructing and operating authority for the Murray–Darling Basin Commission in South Australia and has built and operates the Lake Victoria regulating storage, nine locks and weirs along the river and the five barrages at the River Mouth.
- The *Water Resources Act 1976*, provides for the management of all aspects of water—surface and underground, quality and quantity. The Act provides for the control of diversions of surface waters from Proclaimed Watercourses and for the withdrawal of underground waters from Proclaimed Regions. It establishes a South Australian Water Resources Council and Regional Advisory Committees as vehicles for public participation in the water resources management process, and a Water Resources Appeal Tribunal to give individuals the opportunity to appeal against decisions of the Minister pursuant to the Act.

Summary of schemes

South Australian irrigation commenced with an agreement involving the Chaffey brothers in 1887 whereby an area was made available for the establishment of certain irrigation works at Renmark. Currently water diversions totalling more than 381,090 ML are made for government, cooperative and private irrigation schemes in the South Australian section of the River Murray. The authority controlling River Murray irrigation is the Engineering and Water Supply Department.

Except for quantities held in various lock pools and natural lakes, no water from the Murray is stored within South Australia for irrigation purposes. In addition to irrigation from the River Murray there are considerable areas irrigated from underground sources.

Adelaide Metropolitan Water Supply

In 1988–89, River Murray pipelines supplied 29 per cent of the total intake to the Metropolitan Adelaide Water Supply System, compared to 27 per cent for the previous year. The principal sources of supply for the nine storages in the Mount Lofty Ranges are the Rivers Onkaparinga, Torrens, South Para, Myponga and Little Para.

Country reticulation supplies

A number of reservoirs in the Barossa Ranges and other local sources are augmented by the Morgan–Whyalla, Swan Reach–Stockwell and Tailem Bend–Keith pipelines which provide River Murray water to extensive country areas. Surface and underground resources have been developed to supply most country centres not covered by the larger schemes.

River Murray irrigation areas

Where irrigation water in excess of plant requirements has been applied, perched water tables develop. Rising to the level of tree roots, these cause the death of orchards from salination and water-logging. Most orchards and vineyards are now drained by plastic and tile drainage systems, thus restoring their health and productivity. Several measures have been taken to reduce drainage water in excess of irrigation requirements. An investigation into the feasibility of replacing open channels with pipe in the remaining unrehabilitated Government irrigation areas has been undertaken, to provide irrigators with a reliable and flexible water supply. An Irrigated Crop Management Service has been initiated by the Department of Agriculture to assist irrigators to improve water use efficiency and productivity. Disposal of drainage water is achieved by pumping to basins on river flats where it is evaporated, or by discharge into the river when it is in flood—apart from those areas connected to the Noora Drainage Disposal Scheme, completed in 1984. In the same year, another salinity project, the Rufus River Groundwater Interception Scheme, was commissioned. This scheme involves intercepting saline seepage to Rufus River (which flows from Lake Victoria to the Murray) and pumping it to an evaporation basin east of Lake Victoria and outside the river valley. Woolpunda Groundwater Intercaption Scheme which will significantly reduce the inflow of natural saline ground water in the reach between Overland Corner and Waikerie which is under construction. Studies are currently being made into the feasibility of further salinity mitigation schemes in the Waikerie area, near Loxton and in the Chowilla Creek area of the River Murray.

Tasmania

Main purposes of water conservation and utilisation

Contrary to popular belief, Tasmania is heavily dependent on water conservation in maintaining reliable sources of supply for irrigation, stock and domestic requirements, and urban and industrial water supplies. This is due to an annual summer drought between January and March, when most run-of-the-river flows only support ordinary riparian needs or very limited irrigation and many smaller streams cease to flow.

The total surface water usage for domestic, industrial, and agricultural purposes in Tasmania is only 1 per cent of the potential exploitable yield, compared with a national figure of about 13 per cent. Despite this, economic, environmental, and social constraints are beginning to restrict further development of the total yield for these purposes.

Excluding power generation storages, the total capacity of water conservation dams in the State is about 150 gigalitres, almost half of which is in on-farm dams.

There is widespread use of farm dams for irrigation which is needed to maintain overall production because of the summer drought and the lack of pasture and crop growth in the State's cold winters.

The vast majority of the State's water resources are used for power generation, based on a large, integrated system of water storages. This system also benefits other water users by enabling greatly increased regulation of many streams.

Administration

In Tasmania, water supply was once exclusively the responsibility of local government authorities, but three statutory authorities, the Hobart Regional Water Board, the Rivers and Water Supply Commission and the North West Regional Water Authority, now operate bulk supply schemes. While the Board is responsible for bulk supplies in the Hobart area, the Commission exercises control over the use of the State's water resources and the Authority controls water supply to a number of northern municipalities.

The Department of Mines administers the development and use of the State's ground water resources.

The Hydro-Electric Commission controls most of the surface water resources in the higher rainfall areas of the State for power generation purposes, and jointly administers certain catchments with the Rivers and Water Supply Commission where other demands exist in addition to power generation.

The Rivers and Water Supply Commission, the Department of Mines and the Hydro-Electric Commission have since been amalgamated to form the Department of Resources and Energy.

Rivers and Water Supply Commission

The Commission is empowered by the *Water Act 1957* to take water at streams and lakes, or to issue others with licences to do so; licensing covers supply to specific industries and municipalities as well as for irrigation. The Commission is concerned with drainage trusts' operations, river improvements, irrigation, stream gauging, its own regional water schemes, and with assessing proposals for water supply, sewerage and drainage of towns. It operates in a similar manner to the Hobart Regional Water Board in controlling the water schemes serving the East Tamar region (North Esk Regional Water Supply), the West Tamar area (West Tamar Water Supply) and the Prosser River Scheme near Orford. The North Esk Regional Water Supply Scheme supplies industrial users at Bell Bay and municipalities on the eastern bank of the River Tamar. The West Tamar Water Supply serves the Beaconsfield municipality. The local government authorities retain primary responsibility for reticulation and sale to consumers, except to certain industrial users.

In municipalities not serviced by the Hobart Regional Water Board, the Rivers and Water Supply Commission or the North West Regional Water Authority, the supply of water is a function of the local municipal council.

Irrigation

The Rivers and Water Supply Commission is in charge of three major irrigation schemes, these being the Cressy–Longford Irrigation Scheme (opened in 1974), the South East Irrigation Scheme, Stage I (opened in 1986), both of which supply water via open channel, and the Winnaleah Irrigation Scheme which supplies water via pipelines.

Of the three schemes, Cressy–Longford is the largest (serving 88 properties) with 10,000 hectares being fit for irrigation. The Coal River Scheme is capable of serving 107 properties, of which 3,800 hectares are fit for irrigation. The Winnaleah Scheme serves 1,500 hectares on 72 properties.

The majority of land irrigated in the State in 1986–87 was watered by private schemes either by pumping directly from unregulated streams or from on-farm storages. Pasture still predominates as the major crop irrigated, but other vegetables now constitute 33 per cent of the total area irrigated.

Northern Territory

Administration

Under the *Northern Territory Control of Waters Act 1981*, control of natural waters is vested in the Crown. The diversion of water is prohibited except under prescribed conditions. The Act requires that drilling for ground water be carried out only by drillers who are registered under the Act and who are required to provide the government with information on bores drilled. In particular areas, described as Water Control Districts, where stricter control is necessary, the construction or use of a well or water bore without a permit can be prohibited.

Under the *Water Supplies Development Act 1960*, any landholder engaged in pastoral or agricultural production may seek information or advice from the Commissioner of Water Development who is appointed under the Act.

The Water Resources Group of the Power and Water Authority is responsible for the assessment, planning and management of surface and ground water resources throughout the Northern Territory. It carries out systematic stream gauging, the collection of data relating to the quantity and quality of surface and ground water, flood prevention and control, and waste disposal and baseline inventory. It is involved in water pollution studies and control, and carries out environmental assessments of water and related developments. It also provides an advisory service under the Water Supplies Development Act and administers permits and licences under the Control of Waters Act.

These arrangements have applied since 1 July 1987. It is proposed that Northern Territory water legislation be amalgamated into a new Act to be called the 'Water Act'.

Surface water

Hydrological investigations and data collection are undertaken across the Northern Territory and the data are published by the Water Resources Group. The program includes base stream gauging stations and pluviographs (automatic rainfall recorders).

Groundwater

For information on Northern Territory ground water (and surface water) resources see the Northern Territory Department of Mines and Energy's publication *Water Northern Territory*—Volume 1, the Department of Resources and Energy's publications *Australia's Groundwater Resources, 1983* and the Australian Water Resources Council's publication *1985 Review of Australia's Water Resources and Water Use*.

Of approximately 21,300 bores and wells registered in the Territory to 30 June 1989, 24.7 per cent were for pastoral use, 14.9 per cent were investigation bores, 31.7 per cent served urban and domestic supplies, 5.2 per cent were for agriculture, 17 per cent were used for mining and the remaining 6.5 per cent for various other uses.

Water supplies

The largest water conservation projects in the Territory are the Darwin River Dam (259.0 gigalitres) and the Manton Dam (15.7 gigalitres) which both serve Darwin with a reticulated water supply. Ground water from McMinns Lagoon area can be used to augment supply.

Most other towns and communities, including Alice Springs, Tennant Creek, Jabiru and Nhulunbuy, are supplied from ground water.

Irrigation in the Territory is expanding, but is not extensive, being confined to locations near Darwin, Adelaide River, Daly River, Katherine, Ti Tree and Alice Springs for the purpose of growing fruit, vegetables, fodder crops, pastures and some dairying. Most of this irrigation is carried out using bore water.

There is increasing demand for water resources assessment studies and assistance for relatively small irrigation projects.

Australian Capital Territory

Administration

The provisions of the *ACT Electricity and Water Act 1988* give responsibility for the supply of water to the Territory to the ACT Electricity and Water Authority, a statutory authority established on 1 July 1988. ACTEW also provides the bulk water supply to Queanbeyan.

Surface water

Surface water storages supplying the ACT (population about 277,900) and the city of Queanbeyan (population about 20,500) are located to the south-west and south-east. The storages to the south-west are in the heavily timbered, mountainous Cotter River catchment within the ACT, the storages being Corin Dam (75.5 gigalitres), Bendora Dam (10.7 gigalitres) and Cotter Dam (4.7 gigalitres). The storage to the south-east in New South Wales in the Queanbeyan River catchment (over which the Commonwealth has permanent water rights) on the western slopes of the Great Dividing Range is the Googong Dam (125.0 gigalitres).

The existing storages on the Cotter and Queanbeyan Rivers have an ultimate combined capacity to serve 401,000 persons. The remaining water resource within the ACT is the Gudgenby River which is at present not utilised but has the potential to serve approximately 200,000 persons.

A network of stream gauging stations in the ACT (run by ACT Electricity and Water) monitors surface water resources. A number of these gauging stations are provided with telemeters to provide a flood warning system in association with the Bureau of Meteorology.

Groundwater

Groundwater in the ACT and environs occurs mainly in fractures in crystalline rock such as granite and volcanic rocks; in folded and fractured slate; and, rarely, in solution cavities in limestone. Alluvial aquifers of significance are restricted to the Lake George basin and small areas along mature sections of the Molonglo and Murrumbidgee rivers. Groundwater has been used in the past by most primary producers to augment surface storage. Groundwater production bores in the ACT have yields ranging between about 0.4 and 20 KL per hour; 3 KL per hour is about the average yield. However, many farm bores have fallen into disuse as a result of the government's resumption of freehold land within the ACT, and because of the rapid expansion of urban growth. The Bureau of Mineral Resources has provided a bore-siting, ground water-quality and yield-prediction service in and around the ACT since the early 1950s and has maintained a network of observation bores which have been monitored regularly.

The Bureau of Mineral Resources provides technical advice to landholders and drilling contractors on groundwater and, occasionally, on runoff.

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17

ENERGY

Energy is fundamental to Australia's standard of living and economic performance. It has an important role to play in restructuring Australia's economy and improving its competitiveness.

The Commonwealth Government has an important involvement in the activities of the energy sector through its responsibility for the overall national interest, including the management of the national economy and the equitable distribution of national income. Its responsibilities for export policy and offshore petroleum activities have a major impact on specific development projects.

As well as ensuring energy policies are consistent with major economic, industry and social policy objectives, the key objective of the Commonwealth's energy policy is the promotion of an efficient, competitive and dynamic energy sector in the context of appropriate environmental considerations and a reasonable return to the community for the use of these resources.

In 1988 Australia completed an energy policy review, examining its current energy situation and what the future holds for it. The review began with a series of discussion papers and a conference, culminating with the publication of 'Energy 2000—A National Energy Policy Paper'.

The review highlighted three major energy policy objectives:

- to ensure that Australia's energy supplies are adequate and reliable. This does not mean setting rigid self-sufficiency targets and planning their achievement, but simply ensuring the availability of a diverse range of energy supplies on a commercial basis and at acceptable prices to meet our varied and changing needs;
- to achieve the most efficient and competitive domestic energy supply industry in order to minimise domestic costs and so sustain internationally competitive industrial sectors, and to contribute to rising standards; and
- to maximise the export earnings of Australia's energy resources consistent with a need to meet overseas requirements for cost competitive energy resources and with environmental and other social objectives.

Australia is generally well placed to meet these objectives by the year 2000.

Australia has abundant reserves of coal, gas and uranium to meet both export and domestic demands. Given currently known reserves, it can continue current production rates in these energy sources for 360 years (black coal only), 55 years, and 120 years respectively. In fact Australia is one of only five Organisation for Economic Co-operation and Development (OECD) countries that are net energy exporters. Australia is:

- the world's largest exporter of coal, accounting for around 25 per cent of the world coal trade;
- a major uranium producer and exporter, accounting for about 10 per cent of western world production and a greater percentage of its uranium trade;
- currently an exporter of Liquid Petroleum Gas (LPG) and petroleum products, and a major exporter of Liquefied Natural Gas (LNG).

Estimates of Australia's demonstrated economically recoverable resources of energy in 1988 were:

Black Coal	50 gigatonnes
Brown Coal	42 gigatonnes
Natural Gas	1,069 TL
Uranium	480 kilotonnes U
Crude Oil, Gas Condensate and LPG	462 gigalitres

NOTE: As at 30 June 1988.

There is one area however, where Australia will rely more on the international market as an importer—crude oil. There is likely to be an increasing disparity between domestic oil supplies and use. This will largely be the result of a marked decline in the production of crude oil from Bass Strait, Australia's main existing production area.

In line with trends in recent years, conservation and greater efficiency in oil use, and the switch to alternative energy sources prompted by the instability and uncertainty surrounding international oil supplies should see oil's share in Australia's total energy demand falling slightly from 39 per cent to 36 per cent in the year 2000.

Advice and Coordination

Institutional arrangements

The Commonwealth Minister for Primary Industries and Energy has portfolio responsibility for national energy policy matters, including the commercial development of hydrocarbon fuels and minerals.

The Department of Primary Industries and Energy provides advice to the Minister on energy policy and provides support for a number of advisory bodies including the National Energy Research Development and Demonstration Council (NERDDC), the Australian Minerals and Energy Council (AMEC), the National Energy Consultative Council (NECC), the National Oil Supplies Advisory Committee (NOSAC), the National Petroleum Advisory Committee (NPAC), the National Fuels Emergency Consultative Committee (NFECC), the Australian Coal Marketing and Technology Council (ACMTC), and the Consultative Committee on Safety in the Offshore Petroleum Industry (COSOP).

It is also responsible for the implementation of action required from Australia's membership of the International Energy Agency (IEA) and for the national system of accounting for control of nuclear materials under Australia's Agreement with the International Atomic Energy Agency (IAEA).

International Energy Agency—IEA

The IEA was established in Paris in November 1974 as an autonomous institution within the framework of the OECD. Australia joined the IEA in May 1979.

The Agency carries out the International Energy Program and the Long Term Co-operation Program. These programs aim to:

- prepare member countries against risk of oil supply disruptions and share remaining supplies in the event of a severe oil shortfall;
- develop alternative energy sources and the more efficient use of energy through cooperative research and development programs;
- promote cooperative relations with other oil-producing and oil-consuming countries.

Australian Coal Marketing and Technology Council—ACMTC

The Australian Coal Marketing and Technology Council was established in 1988 as part of the Commonwealth Government's coal industry strategy. The Council's role is to advise on measures to enhance Australia's export trade in coal. The Council serves as a major source of advice to the Minister for Primary Industries and Energy to assist in maintaining the viability of an internationally efficient Australian coal industry.

The Council's membership consists of a chairman, industry and union representatives, a commercial marketing expert, and a technical expert.

Research and Development

National Energy Research, Development and Demonstration (NERD&D) Program

The NERD&D Program was established in 1978 to stimulate the level of energy research, development and demonstration in Australia in line with government energy policy and priorities. Grants under the Program have been approved by the Minister for Resources on the advice of the National Energy Research, Development and Demonstration Council (NERDDC).

To December 1989, $248 million has been committed under the NERD&D Program to about 1,600 research projects undertaken by government, industry and universities.

In line with its announced policy of replacing existing advisory councils with research and development corporations, passage of broadly directed enabling legislation will allow the Government to replace NERDDC with a National Energy R&D Corporation and Coal Industry R&D Corporation. The Corporations are expected to be established during 1990.

Additional Commonwealth support for energy research and development is provided through budget appropriations to Commonwealth agencies such as CSIRO, BMR, and ANSTO, and through Commonwealth funding of all Australian universities. The Commonwealth also provides an incentive for research and development through the 150 per cent tax concession scheme and through the Grants for Industry Research and Development (GIRD) scheme.

Commonwealth Scientific and Industrial Research Organisation—CSIRO

Energy research within the Institute of Minerals, Energy and Construction is carried out with the objectives of increasing the international competitiveness, export earnings, gross domestic product and value of services provided by the energy industries. Divisions of the Institute engaged in energy research include Geomechanics, Fuel Technology, Coal Technology, Mineral Products, Mineral and Process Engineering and Building, Construction and Engineering.

Australian Minerals and Energy Council—AMEC

The Australian Minerals and Energy Council was established in April 1976 by agreement between State and Commonwealth mines and energy Ministers, replacing the former Australian Minerals Council. AMEC is principally a body for consultation on minerals and energy matters and provides a forum for Ministers to discuss policy issues of mutual concern and coordinate policy action. An AMEC advisory committee which is composed of the departmental heads or their nominees provides for officer level consultation and information exchange. AMEC establishes committees, sub-committees and working parties to undertake specific tasks and report back through its advisory committee as the need arises.

National Oil Supplies Advisory Committee—NOSAC

The National Oil Supplies Advisory Committee was formed in 1983 by the amalgamation of separate Commonwealth–industry and Commonwealth–State bodies set up during the period of tight oil supply in 1979. Representatives of the Commonwealth Government, State Government energy authorities and major domestic oil producers and refiners meet about twice a year to review the situation and outlook for domestic and international oil supplies. Matters discussed include oil production, new oil and gas developments, imports, exports, stock levels, regional shortages, industrial relations, shipping, technical matters and government policies affecting the oil industry.

National Petroleum Advisory Committee—NPAC

Membership of NPAC is drawn from agricultural, general aviation, fishing, manufacturing, mining, oil, shipping and transport industries, the trade union movement and motorists' organisations, as well as Commonwealth, State and Territory Governments. The Department of Primary Industries and Energy provides the Secretariat for NPAC. In accordance with the NPAC recommendations, the Commonwealth Government has enacted the *Liquid Fuel Emergency Act 1984* and established, with the States and the Northern Territory, the National Fuels Emergency Consultative Committee.

National Fuels Emergency Consultative Committee—NFECC

The NFECC, chaired by the Commonwealth and comprising officials of the Commonwealth, States and the Northern Territory, was established in late 1983 to consult and advise governments on matters relevant to the preparation for, and detailed management of, a national liquid fuels crisis; and to act as the prime channel of consultation between governments in the event of such a crisis.

National Energy Consultative Council—NECC

The NECC was established in April 1988 following the recommendation of the Energy 2000 national energy policy review. The purpose of the NECC is to monitor and review the current energy situation and the energy outlook for Australia with particular reference to any major changes in trend away from the projections and positions outlined in the Energy 2000 review. Its purpose is to examine overall energy policy as well as the position of specific industry sectors. In addition it provides a forum for State and Territory governments, the energy industries and trade unions to present their views to the Commonwealth Government on the current situation and outlook in particular energy industries and expected future developments.

Consultative Committee on Safety in the Offshore Petroleum Industry—COSOP

The COSOP was formed following the accident involving the Piper Alpha platform in the North Sea on 6 July 1988. The Committee's principal role is to review the findings of inquiries by the British Government into the Piper Alpha accident and their implications for Australian offshore operations.

The Committee consists of representatives from the major Australian offshore operators, State governments with active offshore production programs, the trade union movement and the Commonwealth Government.

Energy research and development statistics

The last survey of organisations engaged in energy research and development covered the period 1986–87 and provided estimates of expenditure classified by energy objective.

The estimate of human resources devoted to energy R&D in Australia during 1986–87 was 2,822 person years. Of this amount, business organisations accounted for 1,176 person years, general government organisations for 780 person years, higher education organisations for 862 person years and private non-profit organisations for 4 person years. Summary statistics are included in *Year Book* No. 72 and more detailed statistics are contained in the ABS publication *Research and Experimental Development; All Sector Summary, Australia, 1986–87* (8112.0).

Resources

Black coal

Black coal is currently the largest source of primary energy in Australia. By world standards, in relation to present population and consumption, Australia is fortunate in the availability of easily worked deposits of coal. The country's main black coal fields are located in New South Wales and Queensland, not far from the coast and the main centres of population.

Australia's inferred resources of black coal are very large, amounting to over 550 gigatonnes (Gt). At 30 June 1988, Australia's economically recoverable resources of black coal were estimated to total 50 Gt. They are located largely in the Sydney Basin in New South Wales and the Bowen Basin in Queensland. There are other coal-bearing basins in New South Wales and Queensland, while small deposits are being worked in Western Australia, South Australia and Tasmania. Australian saleable black coal production in 1988–89 was 149 Mt.

For further details relating to the production of black coal in Australia *see* Chapter 15, Mineral Industry. Details about the nature and age of black coal are given in *Year Book* No. 64.

Brown coal

Australia's measured and indicated resources of brown coal were estimated to be around 42 Gt at 30 June 1988. The main deposits are located in Victoria's Latrobe Valley (over 39 Gt). Small deposits exist in other areas of south Gippsland, in south-eastern Victoria at Gelliondale and in the south-central region at Anglesea, Bacchus Marsh and Altona. Deposits are also known at many places along the southern margin of the continent, and as far north as central Queensland. Large deposits are being tested in the Kingston area of South Australia, the Esperance area of Western Australia and at Rosevale in the north-east of Tasmania.

Because brown coal has a relatively low specific-energy value and high water content, its utilisation depends on large-scale, low-cost mining and negligible transportation costs in its raw state. In Victoria, the brown coal industry has reached a high degree of sophistication in mining, on-site development for power generation, briquetting and char manufacture.

Petroleum

The level of offshore petroleum exploration activity in 1988 continued to rise compared to 1986 and 1987, and the outlook for 1990 is that this trend will continue. Onshore activity however, has declined in 1989 due to the uncertainty in world oil prices and is likely to remain subdued in 1990.

The prospects of further discoveries of petroleum in Australia are considered to be good, particularly in sedimentary basins off the north-west coast. Consistent with the existing pattern of discoveries, undiscovered oil is likely to be of the light, low sulphur type and more gas fields than oil fields should be found. Assessments by the Bureau of Mineral Resources, Geology and Geophysics indicate that there is an average probability of finding at least another 380 gigalitres (GL) (2,400 million barrels) of crude oil in Australia. This compares with demonstrated economically recoverable resources of 240 GL (1,510 million barrels) and demonstrated sub-economically recoverable resources of 28 GL (176 million barrels) as at 31 December 1988.

PETROLEUM RESOURCES (a) AS AT 31 DECEMBER 1988
(*Source*: Department of Primary Industries and Energy)

Basin	*Crude oil*	*Gas condensate*	*LPG*	*Sales gas*
	GL	GL	GL	TL
Demonstrated economic *(b)*—				
Gippsland (Vic.)	181	24	48	197
Carnarvon (WA)	30	85	60	670
Cooper/Eromanga (SA/Qld)	13	7	11	74
Amadeus (NT) and Bonaparte (WA/NT)	30	6	11	84
Perth (WA)	1	—	—	5
Bowen/Surat (Qld)	—	—	—	3
Canning (WA)	—	—	—	—
Otway (Vic.)	—	—	—	*(c)*
Total	**255**	**122**	**130**	**1,033**
Demonstrated sub-economic *(d)*—				
Gippsland/Bass (Vic./Tas.)	12	10	—	35
Bonaparte (WA/NT)	4	1	4	81
Carnarvon (WA)	11	2	—	378
Cooper/Eromanga (SA/Qld)	1	3	5	35
Browse (WA)	—	32	23	489
Perth (WA)	—	—	—	—
Amadeus (NT)	—	—	—	10
Bowen/Surat/Adavale (Qld)	—	—	—	5
Bass (Tas./Vic.)	1	8	5	8
Otway (SA/Vic.)	—	—	—	6
Total *(e)*	**28**	**56**	**37**	**1,048**

(a) Based on the McKelvey classification which sub-divides resources in terms of the economic feasibility of extraction and their certainty of occurrence. *(b)* Demonstrated economic resources are resources judged to be economically extractable and *for which the quantity and quality are computed from specific measurements and extrapolations on geological evidence. (c)* Gas resource very small. *(d)* Demonstrated sub-economic resources are similar to demonstrated economic resources in terms of certainty of occurrence but are judged to be sub-economic at present. *(e)* Discrepancies between totals and sums of components are due to rounding.

Crude oil and condensate

Indigenous production in 1988–89 at 28,255 megalitres (486 thousand barrels per day) of crude oil and condensate was 9.6 per cent less than production in 1987–88 and 11 per cent less than the peak level of production achieved in 1985–86. Production of crude oil from the Bonaparte Basin has continued to grow since production started in 1986–87. In 1988–89 the Bonaparte Basin produced 2,430 megalitres of crude oil, nearly 10 per cent of the total indigenous oil production. Production of crude oil from the Gippsland Basin decreased by 19 per cent from the 1987–88 level, but that Basin still accounts for 70 per cent of total indigenous crude oil production. The North West Shelf was the major producer of condensate during 1988–89 with 42 per cent of indigenous production sourced in that region.

Export volumes of crude oil and condensate increased by 6.9 per cent in 1988–89 compared with 1987–88 to a new record of 6,904 megalitres. The main markets were the United States, Singapore and New Zealand. Imports of crude oil and condensate also increased to over 10,000 megalitres, the highest level since 1982–83.

Liquefied petroleum gas

Liquefied petroleum gas (LPG) is a valuable co-product of oil and gas production and petroleum refining. The major constituents of LPG are propane, propylene and iso- and normal-butane, which are gaseous at normal temperatures and pressures and are easily liquefied at moderate pressures or reduced temperature. Operations involving LPG are expensive in relation to other liquid fuels because LPG has to be refrigerated or pressurised when transported and stored. LPG is an alternative transport fuel for high mileage vehicles in urban areas as well as a petrochemical feedstock and a traditional fuel.

Identified economically recoverable resources of LPG at June 1988 of 97,000 megalitres (ML) are concentrated in Bass Strait, the North West Shelf and the Cooper Basin.

Production of naturally occurring LPG in Australia in 1988–89 was 3,763 ML. The major contributors to this total were the Bass Strait fields (2,689 ML or 71 per cent of total production) and the Cooper Basin (974 ML or 26 per cent of total production). About 58 per cent of domestic LPG production is exported (2,178 ML in 1988–89), mainly to Japan. Domestic consumption of 2,472 ML in 1988–89 was met by 808 ML of product obtained from refineries, with supply shortfalls being met by naturally occurring product and import.

PETROLEUM PRODUCTION IN AUSTRALIA
(*Source:* Department of Primary Industries and Energy)

Year	*Crude oil and condensate*	*LPG (a)*	*Natural gas*
	ML	ML	GL
1982–83	22,069	2,909	11,654
1983–84	26,828	3,132	12,097
1984–85	30,956	3,864	12,963
1985–86	31,734	4,016	14,278
1986–87	31,503	3,927	14,683
1987–88	31,264	3,923	15,249

(a) Naturally occurring.

Natural gas

During 1988–89, 15,772 million cubic metres of natural gas was produced for domestic consumption. This was 3.3 per cent more than in 1987–88. About 10,886 million cubic metres or 69 per cent of natural gas was sourced in the Cooper Basin. The North West Shelf contributed 3,905 million cubic metres or 25 per cent to the total.

North West Shelf Project

The North West Shelf natural gas project is the largest single resource development program ever undertaken in Australia. The project is estimated to have a total capital cost of $12 billion, excluding LNG tankers. Of this, $2,100 million has been spent by the JVP for the supply of natural gas to the domestic markets of south-west Western Australia and the Pilbara. It comprises the North Rankin 'A' platform, a 134 kilometre submarine pipeline, the onshore domestic gas plant and associated site engineering services. The State Energy Commission of Western Australia (SECWA) also constructed a 1,500 kilometre pipeline to service the domestic markets.

The second phase, the LNG export phase, currently estimated to cost $9.8 billion, includes onshore LNG plant ($3,500 million), two more offshore production platforms, further drilling and pipelines, site engineering and the provision of infrastructure and housing in Karratha. Seven 125,000 cubic metre LNG tankers (costing about $1.6 billion) will also be required.

The first LNG export shipment to Japan left Australia in July 1989, three months ahead of schedule. The project was formally inaugurated by the Prime Minister on 19 September 1989.

LNG exports to Japan take place under a twenty year contract. LNG exports to Japan in 1989–90 will total 2.1 million tonnes, rising to nearly 6 million tonnes by 1994. It is expected that the project will generate some $41 billion in revenue in dollars of the day terms. North West Shelf gas is sold to five electricity and three gas utilities in Japan, which will supply a combined market of some 90 million people.

On 4 April 1989 it was announced that development of the Goodwyn 'A' field would proceed at an estimated cost of $1.6 billion. The Goodwyn field will supplement North Rankin gas production in order to meet the North West Shelf Project's contractual commitments for the sale of natural gas to the State Energy Commission of Western Australia and LNG to the Japanese buyers.

The National Liaison Group (NLG) on the North West Shelf was established to serve as a forum for the exchange of information with a view to increasing Australian content in contracts and purchase orders for the project. It comprises representatives of the Commonwealth and State governments, trade unions and industry associations together with the JVP. The Commonwealth Minister for Resources and Energy is joint chairman with the Western Australian Minister for Minerals and Energy. The aim of the NLG is to maximise Australian content provided cost, quality and performance criteria are met. The fundamental principle is that Australian industry should have a full and fair opportunity to compete in tenders for the project.

The North West Shelf Project is one of national significance, with the potential for major impact on Australia's international trading position.

Oil shale

A description of the nature and location of Australian oil shale deposits was given in *Year Book* No. 67.

Major investigations into oil shale development have concentrated on the Condor, Rundle and Stuart deposits.

Uranium

Australia has about 29 per cent of the Western world's low-cost uranium reserves. Deposits occur in the Northern Territory, Western Australia, South Australia and Queensland.

Australia's reasonably assured uranium resources, at December 1988, totalled 480,000 tonnes of uranium recoverable at less than $US80 per kg U.

The Australian Government's uranium policy provides that the mining and export of uranium will continue but only from the Ranger and Nabarlek mines in the Northern Territory and the Olympic Dam mine in South Australia.

Commercial production at the Ranger mine commenced in 1981 at a planned rate of 3,000 tonnes U_3O_8 per annum. Production for 1988 totalled 3,231 tonnes U_3O_8. The Nabarlek deposit was mined in 1979 and the ore was stockpiled for later treatment. Production at a planned rate of 1,000 tonnes U_3O_8 per annum, commenced in 1980. Production for 1988 totalled 481 tonnes U_3O_8. Processing of high grade ore was completed during 1988 and the mill is currently being held on a care and maintenance program. Exploration is continuing with a view to establishing further resources.

The Olympic Dam mine commenced commercial production of uranium in August 1988. Production for 1988 totalled 452 tonnes U_3O_8 at a rate of 1,500 tonnes U_3O_8 per year. The mine will also produce copper, gold and silver.

All exports of Australian uranium are subject to the most stringent safeguards which provide assurance that none of the material is diverted from peaceful uses. Uranium produced in Australia is exported in the form of yellowcake for use in nuclear reactors for the generation of electricity and for the production of radioisotopes and radio pharmaceuticals.

Production of uranium for 1988 was 4,165 tonnes U_3O_8 and exports were 4,327 tonnes valued at around $373 million. The *Nuclear Non-Proliferation (Safeguards) Act 1987* gives domestic effect to Australia's international nuclear non-proliferation obligations which require domestic legislation. The legislation establishes a system of permits for the possession and transport of nuclear material (defined to cover uranium, thorium and plutonium), and other physical items such as equipment and material used in nuclear reactors. The permit and related provisions also deal with the possession and communication of sensitive information about nuclear technology, in circumstances where that information is not already a matter of public record. The legislation is administered by the Australian Safeguards Office.

Thorium

Thorium is a radioactive mineral that is about three times as abundant as uranium, but occurs in fewer geological environments and in lower grade accumulation. Most of the world's resources of thorium occur in monazite.

In Australia, monazite is produced from titanium-bearing mineral sands on the east and west coasts. Other thorium occurrences are known, but are uneconomic. Australia presently supplies about 65 per cent of the world's traded monazite. Exports from Australia of thorium and thorium-containing ores require the approval of the Minister for Primary Industries and Energy under the Customs (Prohibited Exports) Regulations.

Solar energy

For specific applications such as domestic water and space heating, solar energy is already beginning to play a valuable role in Australia. Some 6 per cent of Australian residences have a domestic solar water heater with the local industry currently producing around 30,000 units annually. The use of passive solar design principles in housing is also increasing as low-cost passive designs are developed. The best prospects for using many solar energy technologies are in areas of Australia remote from the major electricity grids, where electricity costs can be anywhere from 3 to 20 times those in metropolitan areas.

Wind energy

While the bulk of the Australia's inland has relatively low wind speeds, some coastal and island localities have good wind energy resources, notably on the Western Australian, South Australian and Tasmanian coasts, in Bass Strait and on Lord Howe Island.

At present the use of wind energy in Australia is confined principally to mechanical windmills for water pumping and small wind turbine generators for remote areas. It is unlikely that, in the short to medium term, wind energy will be able to compete on a widespread and large scale basis with coal for electricity generation in Australia. However, wind turbines could find increasing application in remote areas where wind resources are favourable and which currently rely on diesel fuel for electricity production.

Geothermal energy

The most intensive and well-documented study in Australia of subsurface temperatures has been made using bore holes in the Great Artesian Basin. However, of the total number of indexed bores, only a very small proportion have water temperatures exceeding 100°C.

In general, it appears that cost constraints will largely restrict the use of our geothermal resources to the supply of hot water for space heating and light industrial purposes. However, for remote homesteads and communities in areas of the Great Artesian Basin, hot artesian bores may well be used to provide an economically viable alternative source of electricity to that obtained from diesel generators.

Biomass

Only two forms of biomass are used significantly as energy in Australia. These are firewood and bagasse, both converted to energy by direct combustion.

Approximately 5.5 megatonnes of firewood are currently used annually in Australia, equivalent in energy terms to about 88 petajoules, or 2.5 per cent of Australia's total energy consumption.

Bagasse is the fibrous residue remaining after extraction of the juice from sugar cane. It is the major fuel used in the sugar industry, providing about 71 petajoules, or 2.0 per cent of Australia's total energy consumption.

Crude Oil Marketing and Pricing Arrangements

Crude oil marketing arrangements were deregulated from 1 January 1988, allowing refiners and producers to negotiate freely with both Australian and overseas suppliers the quantities and prices of crude oil they buy and sell. The Government no longer fixes an Import Parity Price nor requires refiners to absorb quantities of Australian oil at that price, as it did previously under the allocation system.

Crude oil producers now have complete freedom to export crude oil as an alternative to selling on the domestic market, subject to Government policy in times of emergency.

Decisions on major refinery investment associated with changes in Australia's crude oil self sufficiency will be easier in the deregulated market and refiners are already starting to invest in upgraded plant and equipment. For example, BP Kwinana has commissioned a residue cracking unit to process heavier imported crude. Ampol is constructing a continuous reformer at its Brisbane refinery to produce high octane blendstock for unleaded petrol at a cost of more than $100 million and Shell plans to extend and upgrade its Geelong and Clyde refineries at a total cost of more than $600 million.

Secondary tax arrangements in the petroleum industry

In addition to general taxation arrangements applying to companies in Australia, petroleum production projects are subject to secondary taxes. The type and rate of secondary taxation (resource rent tax, resource rent royalty, or excise and royalties) depends on the location of the petroleum resource, the date of discovery of the petroleum reservoir and the date upon which production commenced.

A *Resource Rent Tax* (RRT) applies to petroleum projects in the majority of Australia's offshore areas beyond the States' territorial seas. Excluded are the Bass Strait and North West Shelf production licence areas and associated exploration permits. Where RRT applies, it replaces excise and royalties which would otherwise have been levied.

A *Resource Rent Royalty* (RRR) policy may be applied to onshore petroleum projects by State Governments. Where RRR is applied the legislation provides for the Commonwealth to waive its crude oil excise whenever the relevant State Government negotiates an acceptable RRR agreement with the project producers and agrees to a satisfactory revenue sharing formula with the Commonwealth.

Excise applies to crude oil production from the Bass Strait and North West Shelf projects offshore and all onshore areas (except Barrow Island where a RRR applies). Excise also applies to certain LPG produced from offshore projects.

Crude oil excise is based on the annual level of crude oil sales from individual production areas and is levied as a percentage of the realised price received by producers.

Different excise scales are applicable to oil production depending upon the date of discovery of the production area and the date when the area was first developed. In the case of new offshore projects to which excise and royalty apply, and all onshore fields, the first 30 million barrels of crude oil production are exempt from excise. Production beyond this level is subject to the appropriate excise rate.

Oil discovered before 18 September 1975 ('old' oil) attracts a higher rate of excise than oil discovered on or after this date ('new' oil). An 'intermediate' scale also applies to oil produced from 'old' oil fields that were not developed as of 23 October 1984. However, in the case of all onshore fields that commenced production after 1 July 1987, production in excess of 30 million barrels is subject to 'new' oil excise.

A *Commonwealth Royalty* is also levied on offshore petroleum production except in the case where RRT applies. Proceeds are shared, generally on a 32:68 basis by the Commonwealth and the appropriate State or Territory. Thus, Victoria receives a share of the royalty from petroleum produced from Bass Strait, and Western Australia receives a share of the royalties from the North West Shelf. Onshore petroleum rights are vested in the State and Northern Territory Governments and the Commonwealth does not in general receive a share of this royalty.

Incentives to encourage petroleum exploration and development

Apart from the deregulation of crude oil marketing from 1 January 1988 and the concessions to the crude oil excise regime, the Government has introduced a number of other policy initiatives to encourage petroleum exploration and development in Australia.

On 20 January 1988 the Treasurer announced that Australian participation guidelines for foreign investment policy in respect of new oil and gas development proposals involving total investment of over $10 million will no longer apply. These projects will be allowed to proceed unless judged contrary to the national interest.

On 25 May 1988 in the May Economic Statement the Treasurer announced that the company tax rate would be reduced from 49 per cent to 39 per cent from 1 July 1988. The immediate 100 per cent deductibility of exploration expenditure against company tax has been retained, as has the write-off over 10 or 20 years in equal instalments of expenditure on infrastructure such as pipelines. The general level of tariffs on imports is to be reduced to 10 per cent and 15 per cent over the next four years depending on the tariff category of the equipment. Further, the 2 per cent revenue duty on imports of post wellhead items is being abolished.

The Government continues to release offshore petroleum exploration acreage regularly, usually twice a year. The latest release was made on 2 August 1989 and offered 12 offshore areas in the Western Australian, Tasmanian and Queensland Adjacent Areas.

Pricing of liquified petroleum gas—LPG

Following a major review of LPG pricing arrangements in Australia, it was decided that the Government, as of 1 February 1989, would no longer set the price of LPG on the Australian market. This decision represents an important move towards a free market in LPG and brings LPG into the same pricing arena as other major petroleum products. The Prices Surveillance Authority (PSA) now has responsibility for determining the maximum wholesale price of LPG in each capital city.

Reticulated Energy

Electricity and gas establishments in Australia

The census of electricity and gas industries covers distribution as well as production and is conducted as a component of the Australian Bureau of Statistics' integrated economic statistics system. This system has been developed so that data from each industry sector conform to the same basic conceptual standards, thereby allowing comparative analysis between and across different industry sectors. The results of this census are therefore comparable with economic data collections undertaken for the mining, manufacturing, retail and wholesale trade, construction, transport and selected services industries.

The following table shows a summary of operations of electricity and gas establishments for 1986–87. Further details are available in the publication *Electricity and Gas Establishments: Details of Operations, Australia 1986–87* (8208.0).

ELECTRICITY AND GAS ESTABLISHMENTS: SUMMARY OF OPERATIONS, 1986–87

		Establishments at 30 June	Employment at 30 June			Wages and salaries	Turnover	Stocks		Purchases, transfers in and selected expenses	Value added
		(No.)	Males (No.)	Females (No.)	Persons (No.)	($m)	($m)	Opening ($m)	Closing ($m)	($m)	($m)
ELECTRICITY											
New South Wales		29	26,596	3,004	29,600	792.0	5,097.3	399.2	508.9	3,003.0	2,204.0
Victoria		14	19,036	1,800	20,836	579.4	2,345.4	69.5	79.6	1,119.7	1,235.8
Queensland		12	9,374	1,355	10,729	327.6	2,335.0	149.3	211.9	1,471.9	925.7
Other States and Territories*(a)*		19	15,869	1,560	17,429	480.3	2,263.8	159.4	196.6	790.2	1,510.8
Australia—	**1986–87**	**74**	**70,875**	**7,719**	**78,594**	**2,179.3**	**12,041.4**	**777.4**	**997.0**	**6,384.8**	**5,876.3**
	1984–85	83	75,153	7,458	82,611	2,000.8	10,154.4	714.5	631.2	5,214.8	4,856.3
	1983–84	82	75,362	7,275	82,637	1,823.6	9,342.0	696.4	713.5	4,642.5	4,716.5
	1982–83	85	75,209	7,299	82,328	1,689.6	8,343.3	530.6	693.2	4,313.6	4,192.3
GAS											
New South Wales		20	2,367	532	2,899	69.8	448.3	22.7	22.9	278.4	170.1
Queensland		8	640	136	776	17.0	132.8	8.0	6.8	68.5	63.0
Other States and Territories *(b)*		6	6,253	1,179	7,432	187.2	1,404.8	39.2	39.4	596.1	808.8
Australia—	**1986–87**	**34**	**9,260**	**1,847**	**11,107**	**274.0**	**1,985.8**	**69.9**	**69.1**	**943.0**	**1,042.0**
	1984–85	34	8,788	1,729	10,517	229.4	1,655.2	71.8	70.0	828.5	825.0
	1983–84	34	8,909	1,635	10,544	217.9	1,386.4	72.9	72.0	633.6	752.0
	1982–83	37	9,013	1,571	10,584	206.4	1,158.1	58.7	72.1	545.5	626.0

(a) The number of electricity establishments operating at 30 June 1987 for these States/Territories were: South Australia–9; Western Australia–6; Tasmania–1; Northern Territory–2; and Australian Capital Territory–1. *(b)* The number of gas establishments operating at 30 June 1987 for these States/Territories were: Victoria–1; South Australia–2; Western Australia–1; Tasmania–1; Northern Territory– nil; and Australian Capital Territory–1.

Electricity

At June 30, 1988 the total installed public electric generating capacity in Australia was 34.8 million kilowatts.

Of total public electrical energy produced during 1987–88 hydro-electric sources provided approximately 11 per cent, and the balance was supplied by fossil fuels with approximately 80 per cent provided by coal. The development of coal-fired power stations has been facilitated by the presence of large demonstrated economic resources of coal close to the major industrial areas in New South Wales and Victoria.

About 90 per cent of electric power in Australia is produced by power stations owned and operated by State Government utilities.

Snowy Mountains Hydro-Electric Scheme

The Commonwealth Government's major direct role in the electricity supply industry is its responsibility for the Snowy Mountains Scheme. The Snowy Mountains Scheme is a dual purpose complex which supplies water for generation and irrigation. It is located in south-eastern Australia, and on its completion was one of the largest engineering works of its type in the world. It impounds the south-flowing waters of the Snowy River and its tributary, the Eucumbene, at high elevations and diverts them inland to the Murray and Murrumbidgee Rivers through two tunnel systems driven through the Snowy Mountains. The Scheme also involves the regulation and utilisation of the headwaters of the Murrumbidgee, Tumut, Tooma and Geehi Rivers. The diverted waters fall some 800 metres and together with regulated flows in the Geehi and Tumut River catchments generate mainly peak load electricity for the States of New South Wales and Victoria and the Australian Capital Territory as they pass through power stations to the irrigation areas inland from the Snowy Mountains.

A special article on the Scheme appeared in the Energy Chapter of *Year Book* No. 70.

New South Wales

Department of Minerals and Energy

On 19 October 1989 the Department of Minerals and Energy was established by the amalgamation of the department of Mineral Resources and the Department of Energy. The aim of the Department of Minerals and Energy is to promote the responsible development, management and utilisation of the energy resources of New South Wales.

The *Energy Administration Act 1987* confers broad powers on the Department to secure the best management of the supply and use of energy in New South Wales. This involves oversighting the planning of additional electricity supply capacity and of the supply and distribution of electricity, gas and petroleum products. The Department also promotes the efficient and safe use of energy in business, transport and residential sectors.

The State Energy Research and Development Fund (SERDF) was established by the *Gas Act 1986*. The Fund which is administered by the Department of Minerals and Energy provides financial support for the development, demonstration and commercialisation of new energy technologies, manufacturing processes and techniques likely to benefit NSW.

SERDF is funded by contributors from the gas and electricity industries with $5.2 million available to the Fund in 1987–88, the first full year of operation.

In 1987–88, the Department undertook or funded a range or R&D projects and programs mainly in the areas of solar and wind technologies, coal and wastes utilisation, energy end-use efficiency, energy planning and electricity technology. Amounts spent or committed in these areas totalled $3.6 million.

The Department also administers the Electricity Development Fund (EDF) established under the Electricity Act on 1 July 1987. Through the EDF, the Minister for Minerals and Energy arranges financial transfers between electricity supply authorities which provide financial support to County Councils to assist them to maintain their supply system and to implement various tariff rationalisation measures introduced by the State Government. The subsidy in the year ended June 1988 amounted to $34 million. The EDF is also used, inter alia, to meet premiums for a joint electricity distribution industry general liability insurance coverage.

The Department continues to administer the Rural Electricity Subsidy Scheme, new approvals for which terminated on 30 June 1982. Under the scheme, the rural electrical development of the State has now been virtually completed in areas where the extension of supply is currently economically feasible. Electricity supply authorities receive subsidies towards the cost of new rural lines. At 30 June 1988 the scheme was committed to the payment of $46,924,963 in subsidies, of which $44,206,708 had been paid.

The Traffic Route Lighting Subsidy Scheme provides for financial assistance to councils towards the cost of installation of improved lighting on traffic routes traversing built-up areas with the objective of reducing the incidence of road accidents at night. For the year ended 30 June 1988, $4.5 million was provided in subsidy payments for this scheme.

Electricity Commission of New South Wales and electricity supply authorities

The main function of the Commission is the generation and transmission of electricity, which it sells in bulk to distributing authorities (mainly local government bodies) throughout a large part of the State, to the government railways and to certain large industrial consumers.

As the principal generating authority, it is also responsible for the development of major new power sources except in the Snowy Mountains region.

The retail sale of electricity to the public is, in general, carried out by separate electricity supply authorities. At 30 June 1988 there were 27 retail supply authorities, mainly county councils, throughout the State.

Generation and transmission

Of the State's electrical power requirements during the year ended 30 June 1988, almost all was generated in New South Wales. Over 95 per cent was produced by the six major thermal power stations, with the balance from the Snowy Mountains Hydro-Electric Authority, other hydro-electric stations, and interchange with other States.

At 30 June 1987, the major power stations of the Electricity Commission of New South Wales State system and their effective capacities were as follows: Bayswater (Hunter Valley) 2,640 MW; Liddell (Hunter Valley) 1,860 MW; Munmorah (Tuggerah Lakes) 1,200 MW; Vales Point (Lake Macquarie) 1,880 MW; Eraring (Lake Macquarie) 2,640 MW; and Wallerawang (near Lithgow) 1,030 MW. The total nominal capacity of the Electricity Commission's system as at 30 June 1988 was 12,137 MW. The greater part of the Commission's generating plant is concentrated within a 185 km radius of Sydney. The maximum demand for electricity from the Commission's system during 1987–88 was 8,969 MW.

Several local government bodies operate their own power stations and generate a portion of their requirements which is supplemented by interconnection with the system of the Electricity Commission. The aggregate effective capacity for the whole of New South Wales systems and isolated plants was approximately 12,172 MW at 30 June 1988 while the number of retail consumers at this date was 2,324,412.

The retailing of electricity to 97 per cent of the population of New South Wales is in the hands of local distributing authorities, which obtain electricity in bulk from the Commission's major State network. This 17,000 km network of 500 kV, 330 kV, 220 kV,132 kV, 66 kV and some 33 kV transmission lines links the Commission's power stations with the major load centres at Sydney, Newcastle and Wollongong and throughout much of the remainder of the State extending geographically over 650 kilometres inland.

New developments

Two 660 MW units are being installed at Mount Piper Power Station which is located on the western coalfield near Lithgow. Commissioning of the Mount Piper station is planned for the early 1990s.

Bayswater Power Station, the largest in New South Wales, with a capacity 2,640 MW was officially opened on 9 October 1987.

A 153 km transmission line between Wagga Wagga and Darlington Point and Buronga joined the Broken Hill supplies to the New South Wales system.

Hydro-electricity

The greater part of the hydro-electric potential of New South Wales is concentrated in the Snowy Mountains area, which is controlled by the Snowy Mountains Hydro-Electricity Authority. Apart from this area, major hydro-electric stations are in operation at the Warragamba Dam (50 MW) and Hume Dam (50 MW). In addition, there are five smaller hydro-electric installations in operation in various parts of the State. A pumped-storage hydro-electric system to produce 240 MW has been installed as part of the Shoalhaven Scheme in conjunction with the Metropolitan Water Sewerage and Drainage Board.

Gas reticulation

Natural gas (NG) was made available to Sydney consumers with the completion of an overland supply pipeline from the Moomba field in South Australia in 1976. During the following five years, lateral pipelines were completed to Wollongong (1978), Bowral–Mittagong (1979), Goulburn (1980) and Canberra, Queanbeyan and Wagga Wagga (1981). A major trunk line between Sydney and Newcastle was completed in 1982. A lateral pipeline to Bathurst, Orange and Lithgow was completed in 1987, and Young was connected to natural gas in 1988.

With the connection of natural gas pipelines into existing reticulation systems, the use of gas manufactured from coal or petroleum has been entirely superseded in the main population centres of the State. By mid 1988, most of the Sydney homes with reticulated gas supply had been converted to the direct use of natural gas, with this program being scheduled for completion in 1990. At June 1988, Sydney users of direct and processed natural gas totalled about 395,000 residential accounts and 17,000 other users (mainly commercial/industrial).

A smaller number of regional centres not yet connected to the natural gas distribution network still retain their own manufactured gas production and reticulation systems. These systems are operated either by local government or by commercial interests. However, together they account for less than 3 per cent of total sales in New South Wales.

Work still in the development stages includes extraction of methane gas from coal seams south of Sydney and the investigation of potential bulk natural gas storage facilities adjacent to the main population centres.

Victoria

State Electricity Commission—SEC

The SEC is Australia's largest electricity supply authority and individual coal producer. It is a semi-government authority with the principal responsibility of generating or purchasing electricity for supply throughout Victoria. It may own, develop and operate brown coal open cuts and briquetting plants and develop the State's hydro-electric resources. It is required to meet, from its own revenue, all expenditure involved with operating its power and fuel undertakings and to provide for statutory transfers to the consolidated revenue of the State. In 1988–89 its revenue was $2,404.7 million. At 30 June 1989 it had total fixed assets of $8,685 million and a staff of 21,551.

The SEC was established by an Act of the Victorian Parliament in 1921 and now operates under the *State Electricity Commission Act 1958*. Since it began operating, the SEC has expanded and coordinated the generation, purchase and supply of electricity on a State-wide basis to the stage where its system provides almost all the electricity produced in Victoria and its transmission covers almost the entire population of the State. At 30 June 1989 it distributed electricity directly to 1,555,000 customers and indirectly to a further 286,500 through 11 metropolitan councils which buy power in bulk for retail distribution under franchises granted by the Victorian Government before the SEC's establishment.

Existing electricity system

The State Electricity Commission Act requires the SEC to apply the natural resources of the State. Of the State's recoverable fossil fuel reserves, brown coal represents 95.0 per cent, natural gas 2.6 per cent and oil 2.4 per cent. The SEC therefore has committed itself to increasing the proportion of total Victorian requirements met with coal based energy.

Victoria's electricity system is based upon the State's extensive brown coal resource in the Latrobe Valley, 140 to 180 km east of Melbourne in central Gippsland. It is one of the largest single brown coal deposits in the world, amounting to 200,000 megatonnes, of which 52,000 are presently economically recoverable.

The coal is young and soft with a moisture content of 60 to 70 per cent and occurs in thick seams located from relatively close to the surface to a depth of several hundred metres. The coal can be won continuously in large quantities and at low cost by a specialised mechanical plant. The SEC's coal-fired power stations have been established near the coal deposits because the coal's high moisture content would make the coal expensive to transport.

The major brown coal-fired generating plants in the system are the 2,000 MW Loy Yang 'A', the 1,600 MW Hazelwood and 1,450 MW Yallourn 'W' power stations. Other brown coal-fired plants are Morwell (170 MW) and Yallourn 'E' (240 MW). These stations are all located in the Latrobe Valley and generate 80 per cent of the State's electricity requirement.

Other thermal stations are Jeeralang (465 MW) gas turbine station in the Latrobe Valley and Newport 'D' (500 MW) gas-fired station in Melbourne. There are hydro-electric power stations in north-eastern Victoria: Kiewa (184 MW), Dartmouth (150 MW) and Eildon–Rubicon–Cairn Curran (135 MW). Victoria is also entitled to about 30 per cent of the output of the Snowy Mountains Hydro-Electric Scheme and half of the output of the Hume hydro-electric station near Albury.

The SEC's total installed generating plant capacity at 30 June 1989 was 7,763 MW, including both capacity within the State and that available to it from New South Wales. In 1988–89 electricity generated by the SEC in its thermal and hydro-electric power stations, or purchased, totalled 36,144 GWh.

Power station construction

The fourth and final unit of Loy Yang 'A' Power Station was put into commercial service on 30 November 1988, taking the total installed plant capacity to 2,000 MW. The Loy Yang project will provide base load electricity for the Victorian Grid and is almost half the State's generating capacity.

The Loy Yang 'B' station, the second part of the project, has at this stage approved capacity of 1,000 MW in two units of 500 MW each. The first steam to turbine dates for units 1 and 2 are targeted for November 1992 and 1994 respectively. Work is on schedule to achieve these dates.

Transmission distribution—power grid

The Power Grid Group was formed during October 1988, to replace the Transmission Group. It has adopted the responsibility for design, construction, operation and maintenance of the transmission and sub-transmission systems. Main transmission is by 500, 330, 220 and 66 kV lines which supply the principal sub-transmission centres and interconnection between generating sources.

Three 500 kV transmission lines and six 220 kV lines link the Latrobe Valley stations with Melbourne and the State grid while three 330 kV lines provide the interstate link, two through the Snowy Scheme. Bulk distribution of power throughout the main regional areas is by 220 kV lines to terminal stations which reduce the voltage to 66 kV or 22 kV for delivery to zone substations for further distribution. Feeder lines then deliver to distribution substations which in turn reduce the voltage to 415/240 volts for reticulation to individual customers. Some big industrial concerns take power at higher voltages.

There have been steady progress made on Power Grids major projects in the last 12 months. As part of the South Australian interconnection, good progress is being made with the establishment of the Heywood Terminal Station, near Portland in the south-west of the State.

The Heywood Station provides the connection to existing 500 kV lines to the Portland Smelter and transformation to 275 kV for the connection of lines to South Australia. Commercial service is expected to be around March 1990.

In an effort to meet the increased load requirements for the North Eastern Region a new 22 kV substation has been constructed and will be in service this financial year.

Gas reticulation

The Gas and Fuel Corporation of Victoria is the largest gas undertaking in Australia, the sole reticulator of gas in Victoria, and a major marketer of liquefied petroleum gas (LPG). Constituted on 6 December 1950, it was formed by merging the interests of the privately-owned Metropolitan and Brighton Gas Companies with the State Government. (Through its predecessor, the Metropolitan, the Corporation is descended from the first gas company in Victoria— The City of Melbourne Gas and Coke Company founded in 1850 and incorporated in 1853.)

The merger gave the newly-formed Corporation an unusual status—that of a public authority owned jointly by the State and private shareholders. With its expanded capital structure, the Corporation was able to build a plant at Morwell to gasify indigenous brown coal, with the objective of improving Victoria's gas supply. Commissioned in 1956, the Lurgi high pressure brown coal gasification works supplemented metropolitan gas production until the introduction of natural gas in 1969.

Commercial reserves of natural gas were discovered in the off-shore Gippsland Basin in 1965 by Esso–BHP from which the Corporation purchases, under agreement, the State's natural gas requirements.

Supply is drawn from the Marlin, Barracouta, and Snapper fields in Bass Strait, and transported by pipeline to an onshore treatment plant at Longford, near Sale. Before it enters the Corporation's transmission system, an odorant is added to give the gas a distinctive smell, for safety reasons.

The Corporation reticulates gas, 99 per cent of which is natural gas, through a 20,000 kilometre network of underground transmission pipelines and mains to more than one million industrial, commercial, and domestic consumers.

Queensland

Electricity reticulation

The electricity supply industry is administered by the *Queensland Electricity Act 1976–1989*. The industry operates under a two-tier structure consisting of the Queensland Electricity Commission and seven electricity boards.

The boards purchase electricity in bulk from the Commission and manage distribution systems within their respective areas to supply power to end use customers.

Each of the distribution authorities is directed by a five member board appointed by the Government. The Electricity Commissioner is an ex officio member, the other four members are residents within the board's area of supply. Electricity boards report to the Minister through the Queensland Electricity Commission.

The Commission has extensive regulatory and coordination roles. It coordinates the planning, establishes future capital spending by confirmation of budgets, and sets the retail rates charged to electricity users. The Commission also has responsibility for electricial safety and licensing of electricial workers.

The Commission plans, constructs and manages the generation and transmission operation that provides electricity to the whole of the State.

Electricity generation, transmission and distribution

There are four coal-fired generating plant sites on the system. These stations provide 97 per cent of energy requirements. Over 60 per cent of the rated capacity of this plant has been installed during the 1980s. The average age of all thermal plants is 8.4 years. The efficient operation and high availability of these stations and the decommissioning of older, small capacity plant has produced cost savings reflected in retail prices. Hydro-electric, pumped storage hydro-electric, and gas turbine plants make up the remainder. There are two hydro-electric power stations in the north of the State with a combined capacity of 132 MW. A pumped storage hydro-electric power station rated at 500 MW, located on the Brisbane River at Wivenhoe, is used to augment supply at peak demand and to pump water to high storage at times of low demand.

The transmission system extends over 1,500 kilometres, linking power stations to high voltage substations supplying the reticulation system. The highest transmission voltage is at 275 kV. In rural areas, extensive use is made of single wire earth return systems to supply relatively light loads over long distances. The circuit length of supply line extends over 174,000 kilometres, and has grown at an average rate of 3.8 per cent per annum over the last five years.

New development

The next addition to the State's generation capacity will be commissioned during 1993. This station, at Stanwell near Rockhampton, will be equipped with four turbo generators each rated at 350 MW. Coal will be railed to the station from a mine about 150 kilometres away, and the supply of cooling water for the station involves construction of a weir across the Fitzroy River and a 28 kilometre pipeline to the site.

The Tully-Millstream hydro-electric scheme will meet energy demand growth in the late 1990s. The scheme involves construction of a 600 MW underground station with three generating units, two major dams, and several smaller dams and weirs, a pumping station, and 20 kilometres of tunnels. Present projections of demand indicate that the station should take up load in 1997, but actual timing will remain under review.

Gas reticulation

Queensland has a reticulated town gas system in the Brisbane region and in the cities and towns of Bundaberg, Cairns, Roma, Dalby, Oakey and Toowoomba. By June 1988 there were over 2,995 kilometres of mains laid in these centres and the systems serviced 161,686 consumers. Roma, Dalby, Oakey, Toowoomba, South Brisbane and the main industrial areas of North Brisbane reticulate natural gas, whereas Bundaberg, Cairns and the domestic–commercial areas of North Brisbane reticulate reformed town gas. Total sales of natural gas in 1987–88 were 19,821 TJ compared with 17,056 TJ in 1986–87. Sales of reformed town gas were 1,155 TJ and 1,099 TJ respectively.

Western Australia

State Energy Commission of Western Australia

On 1 July 1975 the Government of Western Australia combined the State Electricity Commission and the Fuel and Power Commission to form a new organisation known as the State Energy Commission of Western Australia. The Commission is specifically responsible for ensuring the effective and efficient utilisation of the State's energy resources and for providing economical and reliable supplies of electricity and gas.

Electricity generation and distribution

The Commission owns and operates three major thermal power stations. These are located at Muja (1,040 MW capacity) and Bunbury (120 MW), both using local coal to produce electricity, and at Kwinana (880 MW). Kwinana power station has the capacity to burn coal, oil or natural gas, although natural gas (from the North West Shelf) is the major fuel used. There are 20 MW capacity gas turbine generating units at Geraldton, Kalgoorlie and Kwinana. An additional three 36 MW gas turbine generating units (two near Geraldton and one at Kalgoorlie) are in the process of being commissioned.

Two power grid systems operate in Western Australia and supply the electricity needs of 98 per cent of the State's population. The two systems are:

- *The South West interconnected system.* Power from the three major stations provide the bulk of electricity fed into the South-West system. The gas turbines at Kwinana, Kalgoorlie and Geraldton provide back-up supplies. This grid services the metropolitan area and covers the southern portion of the State extending from Kalbarri south to Bremer Bay and from Perth east to Kalgoorlie. Kalgoorlie was brought into the South-West grid system in 1984 following construction of a 680 km transmission line from Muja, one of the longest radial feed lines constructed in Australia.

- *The Pilbara interconnected system.* This system was established during 1985–86 and interconnects Karratha, Dampier, Cape Lambert, Wickham, Roebourne and Port Hedland. Electricity is supplied from a generating plant at Cliffs Robe River Iron Associate's power station at Cape Lambert. The plant is fuelled by North-West Shelf natural gas. Back-up supplies come from the Commission's stand-by diesel power generating facility at Redbank (Port Hedland) or from Hamersley Iron Pty Ltd's power station at Dampier.

In areas too remote to utilise the interconnected grid systems, the Commission operates 29 diesel power stations and provides support services for the Federal Department of Aboriginal Affairs to help run 37 Aboriginal village power stations.

At 30 June 1988, the Commission's generating capacity from its interconnected grid system was 2,100 MW, while the capacity of its supply system in country areas was 172 MW. There were 585,020 customer accounts for electricity throughout the State.

Gas reticulation

The Commission is the main supplier of gas in Western Australia. It owns and operates the Dampier to Bunbury natural gas pipeline which feeds North West Shelf gas into an extensive reticulation system in the Perth metropolitan area as well as smaller country reticulation systems at Geraldton and Carnarvon to the north and Pinjarra and Bunbury in the south-west. The Commission also reticulates tempered liquefied petroleum (TLP) gas through a local system at Albany on the south coast.

At 30 June 1988, there were 208,205 customer accounts for natural gas and 2,409 customer accounts for TLP gas.

South Australia

Electricity Trust of South Australia

In 1946 the assets of the Adelaide Electric Supply Co. Ltd were transferred to a newly-formed public authority, the Electricity Trust of South Australia, which became responsible for unification and coordination of the major portion of the State's electricity supply, taking over the powers previously vested in the South Australian Electricity Commission. In addition to the powers specified in the *Adelaide Electric Supply Company's Acts 1897–1931*, the Trust may supply electricity direct to consumers within a district or municipality with the approval of the local authority; arrange, by agreement with other organisations which generate or supply electricity, to interconnect the mains of the Trust with those of other organisations; and give or receive supplies of electricity in bulk.

Capacity and production

At 30 June 1989, the Electricity Trust's installed capacity was 2,680 MW. Its major power stations are Port Augusta Northern Power Station (500 MW), Torrens Island (1,280 MW) and Port Augusta Playford 'B' (240 MW). Of the older stations, Playford 'A' (90 MW) has been retired and most of Osborne (240 MW) has been placed on cold storage. The Trust also operates gas turbine stations at Dry Creek (156 MW), Mintaro (90 MW) and Snuggery (75 MW) and a small diesel station at Port Lincoln (9 MW).

The Trust supplies approximately 650,000 customers, accounting for over 95 per cent of all electricity consumers in the State.

The two main fuels used by the Trust are coal from Leigh Creek for the Port Augusta power stations and natural gas from the Cooper Basin for the Torrens Island, Dry Creek and Mintaro stations.

Future developments

To meet future demands, a third 250 MW unit at the Northern Power Station, also fuelled by Leigh Creek coal, is scheduled for commissioning in 1996.

A 500 MW capacity interconnection with the Victorian–New South Wales systems, being constructed, is scheduled for commissioning in 1990.

Gas reticulation

The South Australian Gas Company (SAGASCO) was a privately owned company incorporated by an Act of Parliament in 1861. The first gas was produced at Brompton in 1863.

When natural gas became available from the Cooper Basin in the late 1960s, SAGASCO, in 1966, contracted a supply of this indigenous fuel. Deliveries commenced in 1969 and, with the complete conversion of the metropolitan area to natural gas in January 1971, coal carbonising and carburetted water gas plants were shut down.

Under the 1966 contract, SAGASCO paid the Cooper Basin producers who, in turn, paid the transportation charge of the Natural Gas Pipelines Authority. In 1974, major changes to contracts and other arrangements were effected. The Pipelines Authority—renamed the Pipelines Authority of South Australia (PASA)—became responsible for purchasing gas at the Cooper Basin and on-selling to customers. The 1966 contract was shortened to expire on 1 January 1988, from which date a new supply contract with PASA took effect.

Natural gas is reticulated through most of the Adelaide metropolitan area, Angaston and Port Pirie. Liquefied petroleum gas is distributed by reticulation at Mount Gambier, Roxby Downs and Whyalla, and is available elsewhere as bottled gas.

The company places great emphasis on promoting natural gas with both the domestic and commercial/industrial markets as a cheap and non-polluting fuel. On 1 June 1988 the South Australian Gas Company merged with the South Australian Oil and Gas Corporation to form SAGASCO Holdings Ltd. Two new subsidiaries were formed: South Australian Gas Company Ltd (to undertake the operations of the old utility) and SAGASCO Resources Ltd. The sales and distribution of LPG is now handled by a new company, SAGASCO LPG Pty Ltd.

Tasmania

Electricity

Hydro-electric power accounts for almost all reticulated energy in Tasmania. An even distribution of rainfall throughout the year and the establishment of numerous dams in the central Highlands, has created substantial artificial storage which has enabled the State to produce electricity at a lower cost than elsewhere in Australia.

Capacity and Transmission

Electricity is supplied by the Hydro-Electric Commission which was created in 1930. The total installed generator capacity at 30 June 1989 was 2,315 MW of which almost 90 per cent was supplied by an integrated hydro network. An oil-fired thermal station of 240 MW is located at Bell Bay.

Construction is continuing on two more hydro power schemes in western Tasmania. These are the King River Power Development, scheduled for completion in mid 1992, and the Anthony Power Development, expected to be completed some 18 months later. They will add 227 MW to the installed capacity of the system.

During the 1988–89 financial year total energy generated was 8,908.5 MWh, a slight increase on the previous year. Total sales amounted to 8,225 MWh of which 66 per cent was sold to the major industrial sector.

Total water storages at June 1989 were 35.9 per cent compared with 29 per cent at June 1988. Rainfall in October 1988 boosted storage by a remarkable 10.8 per cent.

Gas reticulation

Gas is only a minor energy source in Tasmania. Town gas is manufactured and reticulated in Launceston only. Bottled LPG is a minor domestic, commercial and motor fuel in the State.

Northern Territory

The Power and Water Authority is a Statutory Authority, created on 1 July 1987, with responsibility for the sale of natural gas, generation, distribution, transmission and sale of electricity, and water and sewerage services.

In Darwin, the major electricity source is the gas-fired Channel Island Power Station completed in October 1987 with a capacity of 186 MW. In Alice Springs, power is generated at the Ron Goodwin Power Station which operates on natural gas. In Katherine, electricity is generated at the gas fired Katherine Power Station, completed in September 1987. Natural gas is also used as a fuel for electricity generation at the Tennant Creek Power Station and in February 1989 a gas fired power station was commissioned for Pine Creek.

A natural gas pipeline from the Amadeus Basin in Central Australia to Darwin was completed in December 1986, enabling electricity generation in Darwin, Katherine and Tennant Creek to use an indigenous fuel to replace expensive, imported fuel. The Alice Springs Power Station is fuelled by natural gas from Palm Valley via a separate pipeline.

Many small communities in the Territory generate their own power using diesel-fired generating sets. Hybrid diesel-battery units are being trialled in six locations

Australian Capital Territory

Electricity distribution

Electricity is distributed within the Territory by ACT Electricity and Water. This authority was established on 1 July 1988 taking over from the previous ACT Electricity Authority. During the year 1988–89 the total bulk electricity purchased was 2,075 GWh, comprised of 1,405 GWh provided by the Electricity Commission of New South Wales and a reservation of 670 GWh from the Snowy Mountains Hydro-Electric Authority. The system maximum demand was 514 MW. The authority supplied 104,236 customers at 30 June 1989.

Gas reticulation

Reticulated gas first became available in the Australian Capital Territory in January 1982. Natural gas from the Moomba fields in South Australia is piped to Canberra via a 70 kilometre spur which branches from the main Moomba–Sydney pipeline at Dalton. AGL Canberra Ltd has invested capital of $83 million to set up the infrastructure necessary to service and support a major utility and, to date, has laid over 2,000 kilometres of gas mains, bringing reticulated natural gas within reach of an estimated 68,000 dwellings in 74 suburbs.

During 1988–89, AGL Canberra Ltd reticulated 2,748 TJ of natural gas to 900 commercial and industrial establishments and about 20,800 homes. Over the next five years the company expects to invest a further $50 million and, in the long term, over 2,500 kilometres of gas mains will service over 50,000 customers in the Territory.

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Other Publications

Other organisations which produce statistics in this field include the Department of Primary Industries and Energy, the Joint Coal Board, the Australian Institute of Petroleum, the Electricity Supply Association of Australia and the Bureau of Mineral Resources, Geology and Geophysics. State government departments and instrumentalities also are important sources of energy data, particularly at the regional level, while a number of private corporations and other entities operating within the energy field also publish or make available a significant amount of energy information.

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MANUFACTURING, RETAIL TRADE AND SERVICE INDUSTRIES

MANUFACTURING

An historical summary of the development of the Manufacturing industry in Australia since 1788 was contained in *Year Book* No. 71.

Government Authorities

Industry Commission

On 2 November 1989 the Government introduced legislation into the Australian Parliament to establish the Industry Commission. As part of its 1989–90 Budget initiatives, the Government announced that the Industries Assistance Commission (IAC) was to be restructured and renamed the Industry Commission and would become the Government's major review and inquiry body in industry matters. The IAC had been established in January 1974 to advise on industry assistance and itself replaced the Tariff Board which had advised governments on assistance for manufacturing industries since 1921.

The Industry Commission also absorbs the functions of two other bodies: the Interstate Commission, which had been re-established in 1984 to advise the Commonwealth Government on interstate transport matters; and the Business Regulation Review Unit, an agency of the Department of Industry, Technology and Commerce which reviewed the efficacy of existing regulations and advised on new regulatory proposals.

Like the IAC, the Industry Commission is an advisory body with an economy-wide perspective, a broad industry charter and public inquiry processes. The principal functions of the Industry Commission are to hold public inquiries and make reports on the industry matters referred to it. In order to ensure the widest possible scope for its inquiries, industry matters include legislative or administrative actions of the Commonwealth, States or Territories and industry is defined to cover industry of any kind or grouping.

The Commission will be required to report annually on the economic performance of industry, the principal factors affecting that performance, and the effects of assistance and regulation on industry and the economy generally. The Government also intends that the Commission give advice on business regulation, and prepare occasional research and information papers that will enhance community understanding of issues relating to structural reform.

The Commission is to operate under general policy guidelines which are cast in terms of encouraging the development of efficient industries, facilitating structural adjustment, reducing unnecessary industry regulation and recognising the interests of other industries and the community generally.

The legislation contains provisions similar to those in the IAC Act which constrain Commonwealth Ministers from changing tariffs, import restrictions and financial assistance without a prior report from the Commission. However, the Government is not obliged to accept the Commission's advice: final responsibility for altering these assistance arrangements rests with Parliament.

The provisions covering the conduct of inquiries provide for the fullest possible participation by all interested parties. The Commission will be required to give wide public notice that it is conducting an inquiry. Typically, draft reports will be prepared on the basis of written submissions, the Commission's own investigative work and wide ranging consultations with industry, users, Commonwealth and State bodies, and the community generally. Draft reports will be published and public hearings held to give interested parties an opportunity to examine and comment before Commission reports are finally settled. Public hearings will be conducted in an informal manner and may be held in Canberra or other cities throughout Australia. For the most part, reports arising from the inquiry process have to be tabled in Parliament within 25 sitting days of the Minister receiving them. Commission reports will be available from Commonwealth Government Bookshops.

The two-year work program for the new Commission demonstrates the wide spectrum of issues on which it is expected to contribute information, analysis and advice. The five early references sent to the IAC and for later transferral to the Industry Commission are:

Mining and minerals processing
Construction costs of major projects
Product liability
Recycling of products
Aids and appliances for the disabled.

The indicative timetable agreed for the remaining inquiries is:

Inquiries commencing in the first half of 1990

Exports of health services
Energy generation and distribution
Railways
Statutory marketing arrangements
Exports of education services

Inquiries commencing in the second half of 1990

Commercial Tariff Concession and By-law Systems
Dairying
Raw material pricing for domestic use
Export franchising and distribution arrangements

References commencing in 1991

Passenger motor vehicles
Sugar
Availability of capital
Implications for Australia of firms locating offshore.

Bureau of Industry Economics

The Australian Government established the Bureau of Industry Economics in 1977 as a major centre for research into the manufacturing and commerce sectors. In recent years this role has been expanded to include science and technology and building issues. Formally attached to the Department of Industry, Technology and Commerce, the Bureau has professional independence in the conduct and reporting of its research.

The major objectives of the Bureau are to:

- increase community and industry understanding of economic developments and industry policy issues in the manufacturing and services sectors by conducting and publishing objective research;
- carry out applied economic research to assist the evaluation and formulation of industry policies and programs; and
- foster basic and applied economic research into industry policy issues at Australian tertiary institutions and research institutes.

The recent expansion in the Bureau's responsibilities means that its research now encompasses the full range of factors affecting the performance of the industry and commerce sectors from infrastructural constraints and research and development, through to the final marketing and distribution of products.

In order to ensure the continuing relevance of its research, the Bureau seeks suggestions from interested parties in the private and public sectors on the most pressing economic issues requiring analysis. In formulating the final research program, the Bureau has regard to the priorities of the Minister and Department, and the view of its own Council of Advice.

The members of the Council are drawn from a wide range of backgrounds, including the universities, industries and the trade union movement. In this way the Council of Advice provides a major link between the Bureau and the community. The Council assists with the development of the work of the Bureau and the effective dissemination of the results of the Bureau's work.

In addition to its research work the Bureau provides specialist economic advice to the Department of Industry, Technology and Commerce on matters of immediate importance. The Bureau is also responsible for providing specialist macroeconomic and statistical advice to the Minister and the Department.

The Government has identified small business as an area of major importance, and has established a small business research unit within the Bureau of Industry Economics to investigate issues of concern to that sector.

The need to raise the community's awareness of the economic issues affecting Australian industry has been identified by the Government as a matter of importance. The Bureau is contributing to the community's knowledge of these issues both by means of its publications and by convening conferences such as the Manufacturing Industry Outlook Conference.

The Bureau has a staff of approximately 60 officers with backgrounds in business, government and university teaching and research.

Current research projects include:

- commercial opportunities for Government research;
- investment;
- globalisation (international industrial interdependence);
- factors affecting productivity differences;
- mergers and acquisitions;
- effect of exchange rate fluctuations;
- trade in services;
- strategic alliances;
- directions for CSIRO research for the manufacturing sector; and
- efficiency in residential construction.

On-going functions include:

- short term consultancy;
- small businesses;
- corporate taxation;
- economic conditions; and
- program evaluation.

The results of the Bureau's research are published in:

- working papers—technical issues or preliminary results;
- information bulletins—statistics and other information;
- research reports—comprehensive results of major projects.

Standardisation

The Commonwealth Scientific and Industrial Research Organisation—CSIRO

CSIRO is obliged by two Acts of Parliament to be associated with national standards. The functions of CSIRO as laid down by these Acts involve establishing, developing and maintaining standards of measurement of physical quantities and promotion of the use of these standards.

CSIRO first undertook this role in 1938 after government acceptance of a recommendation by a Secondary Industries Testing and Research Committee that these functions were essential for the successful development of manufacturing industry in Australia. Since that time, standards and calibrations have been established for a very wide range of physical quantities, extending considerably beyond the minimum required by law. From 1978, CSIRO has been responsible for first level calibrations in the defence area.

In certain specialist areas, CSIRO has authorised other bodies to carry out functions related to standards. CSIRO has authorised the Australian Nuclear Science and Technology Organisation (Department of Industry, Technology and Commerce) and the Australian Radiation Laboratory (Department of Community Services and Health) to maintain standards for quantities relating to ionising radiations, such as radioactivity, exposure, and absorbed dose. It has also authorised the Australian Surveying and Land Information Group (Department of Administrative Services) to maintain working standards and coordinated universal time and the Australian Telecommunications Commission (Department of Transport and Communications) to maintain working standards of frequency.

At the international level, a treaty now widely known as the Metric Treaty has been signed by 47 member nations, including Australia. The International Bureau of Weights and Measures (BIPM) coordinates activities under the Treaty by providing a mechanism for making international agreements in scientific metrology and for coordinating research on basic scientific problems in measurement. CSIRO has representatives on five of the BIPM's consultative committees, while the Australian Radiation Laboratory and the Australian Nuclear Science and Technology Organisation (as CSIRO agents) are represented on another consultative committee. Statements recognising the equivalence of many of the Australian primary standards with those of the United States, the United Kingdom and Canada have been exchanged.

The Standards Association of Australia

The Standards Association of Australia is the organisation responsible for the preparation, on a national basis, of Australian standards for materials and products and standard codes of practice.

Formed as the Australian Commonwealth Engineering Standards Association in 1922, it was reconstituted as the Standards Association of Australia in 1929, and was incorporated by Royal Charter in 1950. It is an independent body, having the full recognition and support of the Commonwealth and State governments and of industry. Approximately one-third of its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from the sale of publications. Organisations, companies, and individuals are eligible for subscribing membership.

The Association is controlled by a council comprising representatives from Commonwealth and State governments and their departments, from associations of manufacturing and commercial interests, and from professional institutions. Standards are prepared by committees composed of expert representatives from the interests associated with the subject under consideration. This assistance is on a voluntary basis.

Preparation of a standard is undertaken in response to a request from any responsible source, subject to verification that the standard will meet a genuine need. Standards may relate to one or more of several aspects of industrial practice such as terminology, test methods, dimensions, specifications of performance and quality of products, and safety or design codes. In general, standards derive authority from voluntary adoption based on their intrinsic merit, but in many cases where safety of life or property or consumer protection is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trademark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the StandardsMark, under conditions established by the Association. It also operates a Supplier Assessment Scheme which attests to the adequacy of manufacturers quality systems to national and international standards.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electrotechnical Commission (IEC). Close links are maintained with overseas standards organisations, and the Association acts as Australian agent for the procurement of ISO and IEC publications and the standards of other countries.

The Association has two specialised information centres, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These centres provide a necessary information service to those concerned with standards development and for researchers from all sectors of the community.

The headquarters of the Association is in Sydney, and there is a major office in Melbourne. Offices are also located in other capital cities and Newcastle.

The National Standards Commission

The Commission is a Commonwealth Statutory Authority established in 1950 and presently located at North Ryde, Sydney. The Commission operates under the National Measurement Act and is directed by a board comprising a part-time Chairman and seven Commissioners. The Commission has responsibility for advising the Government on the scientific, technical and legislative requirements of the Australian National Measurement System and for coordinating that system. In addition the Commission has specific responsibilities for legal metrology, the completion of metrication, and uniformity of trade measurement. The Commission also examines and approves the patterns of measuring instruments used for trade to ensure the instruments will maintain their calibration and will not be affected by environmental factors (e.g. temperature, humidity, electromagnetic interference).

The Commission provides Australia's representative on the International Committee of Legal Metrology and ensures that Australian legal measurement requirements are nationally uniform and internationally harmonised. Through conferences and liaison with government authorities the Commission aims to ensure the traceability of all legal measurements to Australia's primary standards of measurement.

The Commission maintains close liaison with government authorities, industry and commerce and consumer groups to ensure adequacy of measurement throughout Australia.

The Commission provides the Chairman and secretariat for the Standing Committee on Trade Measurement, the Trade Measurement Consultative Committee and Working Parties on oil and gas flow measurement and time measurement.

The Commission is currently developing a National Metrology Policy that will include a policy for the training of metrologists and calibration technicians.

The National Association of Testing Authorities—NATA

NATA accredits competent testing and measurement facilities throughout Australia to serve private and governmental needs. Membership is open to organisations whose testing laboratories conform to the standards of staffing and operations defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued by registered laboratories may be endorsed in the name of the Association. NATA-endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of acoustic and vibration measurement, biological testing, chemical testing, electrical testing, heat and temperature measurement, mechanical testing, medical testing, metrology, non-destructive testing, optics and radiometry, and wool.

The Australian Design Council

The Australian Design Council (formerly the Industrial Design Council of Australia) was incorporated in 1958 as an independent and non-profit making educational body.

The Council's objectives are to promote the use of design and innovation in the product development process of Australian manufactured goods to help those products become internationally competitive.

The Council receives no Federal Government funding, and State Government funds are provided only in South Australia and Western Australia. The Council basically operates on funds it generates from its services to industry.

The Council's services include the Australian Design Award, Japan Exporters Program, Integrated Product Management, Design Audit/Assessment Service, Competing Through Product Innovation, Country Field Service, and Design Referral Service.

The Australian Design Award was introduced to encourage manufacturers to incorporate design into their product development process.

The Japan Exporters Program is designed to help manufacturing companies break through the barriers of business and cultural differences to enter the difficult Japanese market.

Integrated Product Management is a program geared to companies which realise the importance of being market driven and need to adopt a team approach to product development.

The Council is staffed by dedicated professionals who believe that product excellence is an essential part of successful long term manufacturing. Its national office is located in Sydney with divisional offices in Perth, Adelaide, Melbourne and Brisbane.

The Australian Standard Commodity Classification—ASCC

ASCC has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In the ASCC as published to date, commodities are grouped under industries (as defined in the Australian Standard Industrial Classification) in which they are typically produced. The latest edition published is in respect of the year 1984–85.

Since publication of the 1984–85 ASCC some significant changes have occurred. The Harmonized System (HS) has become the mandatory standard for import and export statistics, and for customs administrative purposes. Manufacturing commodity items have been reviewed and are now defined in terms of their relationship with HS items. The complete set of manufacturing commodity items is to be published in the 'Australian Manufacturing Production Commodity Classification' (AMPCC) together with the linkages to the HS. In view of this, the precise direction and content of future editions of the ASCC is currently being reviewed. Work is however continuing to extend the framework of the ASCC to cover non-transportable goods and outputs from service industries.

The Australian Manufacturing Production Commodity Classification—AMPCC

The AMPCC has been produced as a formal classification and is the result of a complete review of manufacturing commodity items. The classification provides a link to the Harmonized System (HS), the Standard International Trade Classification (SITC) and to the Australian Standard Industrial Classification (ASIC). These links facilitate comparability with trade statistics, and provide the basis for industry and market performance studies, etc. Formal linking of manufacturing items to the Harmonised System results in items which are more explicitly defined and therefore less prone to subjective interpretation. By publishing the AMPCC the ABS hopes to establish a more effective and identifiable review mechanism to ensure that manufacturing items are maintained in line with data needs and industry practices. The first issue of the AMPCC is to be released in mid 1990 with respect to the 1989–90 manufacturing census.

The Australian Standard Industrial Classification—ASIC

ASIC (1201.0 and 1202.0) was developed by the ABS as part of its program for the integration of economic statistics. Since its introduction in the processing of the 1969 Integrated Economic Censuses, ASIC has gained a wide acceptance by users of statistics outside the ABS and has been applied in ABS collections and compilations where data are classified by industry.

ASIC has been devised for the purpose of classifying statistical units by industry. It has been designed primarily as a system for the classification of establishments (e.g. individual mines, factories, shops, etc.) although it may also be used for classifying other economic units such as enterprises.

The fundamental concept of this classification system is that an industry (i.e. an individual class, group, etc.) in ASIC is composed of establishments that have been classified to it. Each industry class is defined by a set of *primary activities* which have been assigned to it. These industry definitions are revised only at relatively infrequent intervals to minimise the disruption to time series data assembled on an ASIC basis.

To date, ASIC has been revised twice. ASIC editions published hitherto are: 1969 (original), 1978 (first revision) and 1983 (second revision)—the latter (the 1983 edition) is the one currently in use. A review of this edition is proceeding.

Manufacturing Industry Statistics

Manufacturing industry statistics from 1901 to 1967–68

A series of substantially uniform statistics exist from 1901 up until 1967–68 when the framework within which manufacturing statistics were collected was changed. Detailed manufacturing statistics in respect of this period are included in *Year Book* No. 57, pages 721–9, and in earlier issues.

Manufacturing industry statistics from 1968–69

As from the year ended June 1969, the censuses of Manufacturing, Electricity and Gas have been conducted within the framework of the Integrated Economic Censuses which include the censuses of Mining, Retail Trade, Wholesale Trade, Construction and Electricity and Gas industries. As a result, manufacturing industry statistics for 1968–69 and subsequent years are not directly comparable with previous years.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, covers all the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing, but the data supplied for it cover (with a few exceptions) all activities at the location. The establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the business (enterprise) which owns and operates the establishment.

Census units are classified to industry as described in the ABS publication *Australian Standard Industrial Classification* (1201.0 and 1202.0). ASIC defines the industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses to be specified without gaps or overlapping between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. This classification is broadly convertible to the International Standard Industrial Classification adopted by the United Nations Statistical Commission. The adoption of ASIC has resulted in changes in scope between the integrated economic censuses introduced in 1968–69 and the individual economic censuses conducted in previous years.

In the 1967–68 Census there were approximately 62,600 manufacturing establishments (excluding electricity and gas establishments) with employment of 1,276,000. Of these, approximately 35,400, with employment of 1,097,000 would have been included in the 1967–68 Census if ASIC had been used.

MANUFACTURING ESTABLISHMENTS: SUMMARY OF OPERATIONS, AUSTRALIA

Census year	Establishments at 30 June	Employment at end of June (a)	Wages and salaries (b)	Turnover	Stocks		Purchases, transfers in and selected expenses	Value added	Fixed capital expenditure less disposals
					Opening	Closing			
	No.	'000	$m	$m	$m	$m	$m	$m	$m
1969–70	35,674	1,318	4,328.7	20,687.6	3,322.8	3,634.7	12,862.3	8,137.1	1,030.7
1970–71	No manufacturing census was conducted in respect of this year.								
1971–72	36,206	1,304	5,250.0	23,620.4	3,920.1	4,182.5	14,374.8	9,508.1	1,297.8
1972–73	36,437	1,326	5,820.0	26,352.4	4,187.2	4,306.3	15,963.0	10,508.5	1,244.4
1973–74	37,143	1,362	7,176.4	31,246.7	4,299.1	5,268.5	19,329.8	12,886.3	1,215.5
1974–75(c)	36,836	1,239	8,588.0	35,468.0	5,267.2	6,572.2	21,712.3	15,060.7	1,456.4
1974–75(d)	26,973	1,219	8,533.5	35,133.7	5,241.0	6,542.7	21,522.3	14,913.1	1,445.9
1975–76	27,507	1,209	9,472.4	39,485.3	6,581.1	7,023.3	23,371.7	16,555.8	1,451.7
1976–77	26,780	1,173	10,535.8	44,814.3	6,985.1	7,996.8	27,010.0	18,816.1	1,548.0
1977–78(e)	25,998	n.a.	11,151.4	48,210.8	7.880.2	8,510.8	29,087.8	19,753.6	1,871.8
1977–78(f)	26,065	1,133	11,135.8	48,112.6	7,863.5	8,498.1	28,992.7	19,754.4	1,877.3
1978–79	26,312	1,144	11,966.4	55,211.3	8,515.4	9,299.6	33,765.4	22,230.1	2,262.8
1979–80	27,430	1,148	13,357.5	65,354.8	9,287.6	11,126.4	41,579.5	25,614.0	2,186.7
1980–81	27,681	1,155	14,912.7	73,723.0	11,047.1	12,366.9	46,448.7	28,594.1	2,882.7
1981–82	28,706	1,140	17,002.8	81,869.3	12,377.4	13,297.3	51,240.4	31,548.7	4,084.2
1982–83	27,696	1,012	17,402.7	82,320.6	13,094.4	13.035.1	51,225.8	31,035.5	3,678.4
1983–84(g)	27,472	1,018	17,467.4	88,639.3	12,918.1	13,181.5	54,681.4	34,221.3	2,778.4
1984–85	27,611	1,023	18,780.3	98,208.7	13,088.8	14,473.8	61,206.6	38,387.1	3,133.7
1985–86	No manufacturing census was conducted in respect of this year.								
1986–87	28,846	1,025	21,516.3	116,708.8	15,653.0	16,673.6	72,043.6	45,685.8	n.a
1987–88	31,606	1,064	23,949.8	133,819.6	n.a.	n.a.	n.a.	n.a.	n.a

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors. (c) These data and that of previous years include the data of all manufacturing establishments. (d) These data and those of following years exclude single establishment manufacturing enterprises with fewer than four persons employed. (e) These data and those of previous years are classified to the 1969 (preliminary) edition of ASIC. (f) These data and those up to and including 1982–83 are classified to the 1978 edition of ASIC. (g) These data and those of following years are classified to the 1983 edition of ASIC.

The items of data on the census forms were standardised for all census sectors, which has meant changes in the content of the statistics. For example, the 'value of turnover' is now collected instead of the 'value of output' at the factory, and purchases and selected expenses are collected as well as the value of specified materials, fuels, etc., used. However the underlying concept of 'value added' is similar to the former concept 'value of production', even though its method of derivation is different.

Even though the concept of 'value added' is similar to 'value of production', direct comparison of 1968–69 and previous figures is not possible because of the change in census units already mentioned which has resulted in the 'value added' for the whole establishment being reported, not merely the 'value added' for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the Manufacturing Census due to the adoption of ASIC. In addition, 'value added' as calculated for the Manufacturing Census differs from the concept used in the National Accounts where the concept of 'value added' also excludes some administrative expenses and sundry charges and the change in stocks component is measured by valuing the physical change in stocks at current prices. It is not practicable in the Manufacturing Census to collect data fully in accord with the National Accounts concept of 'value added'.

For a more detailed description of the Integrated Economic Censuses reference should be made to *Year Book* No. 56, Chapter 31.

Since the introduction of the system of Integrated Economic Censuses the comparability of Manufacturing Census data has been affected by four additional changes to collection practices:

(i) Commencing with the 1975–76 Manufacturing Census, only a limited range of data (i.e. employment and wages and salaries) are collected from single establishment manufacturing enterprises with fewer than four persons employed. This procedure significantly reduces both the statistical reporting obligations of small businesses and the collecting and processing costs of the Australian Bureau of Statistics without affecting the reliability of information for the evaluation of trends in the manufacturing sector of the economy (as these small enterprises contribute only marginally to statistical aggregates). In order to provide a link with past and future years, 1974–75 data were processed on both bases.

(ii) Commencing with the 1977–78 Census the classification of census units to industry is based on the 1978 edition of ASIC which replaces the 1969 preliminary edition in use since the 1968–69 Census. In general the impact of the change in industrial classification is minimal at ASIC Division and Subdivision levels.

(iii) From 1983–84, the classification of census units to industry is based on the 1983 edition of ASIC. The only changes to manufacturing resulting from use of the revised version of ASIC relate to establishments mainly engaged in minor repairs to aircraft or railway or tramway rolling stock. Previously, these establishments were excluded from manufacturing but are now included in industry subdivision 32—Transport Equipment.

(iv) Up to and including 1986–87, manufacturing censuses have been conducted for each year, with the exception of 1970–71 and 1985–86. In future, the ABS will be conducting a full-scale census triennially with a small-scale census in each of the intervening years. In the small-scale censuses all businesses will be asked for information on employment, turnover and wages and salaries paid during the year.

Multi-establishment Enterprises and Single Establishment Manufacturing Enterprises with Four or More Persons Employed

Main structural aggregates relating to number of establishments, employment, wages and salaries, turnover, purchases, transfers in and selected expenses, stocks, and value added are shown in the following tables. Further detailed statistics are contained in the following ABS statistical publications: *Manufacturing Establishments, Details of Operations by Industry Class, Australia* (8203.0) and *Manufacturing Establishments, Selected Items of Data Classified by Industry and Employment Size, Australia* (8204.0).

MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY SUBDIVISION: AUSTRALIA

ASIC Description	*Establishments operating at 30 June (No.)*	*Employment at 30 June(a)*			*Wages and salaries (b) ($m)*	*Turnover ($m)*	*Wages and salaries per employee (c) ($'000)*	*Persons employed per establishment (No.)*	*Turnover per person employed ($'000)*
		Males ('000)	*Females ('000)*	*Person ('000)*					
			1986–87						
Food, beverages and tobacco	3,561	116.6	52.2	168.8	3,446.4	24,746.7	20.6	47	146.6
Textiles	664	20.9	13.5	34.5	675.8	3,411.9	19.7	52	99.0
Clothing and footwear	2,081	18.1	56.2	74.4	1,129.4	4,269.1	15.3	36	57.4
Wood, wood products and furniture	4,300	64.2	11.8	76.0	1,286.0	5,859.0	17.3	18	77.1
Paper, paper products, printing and publishing	3,076	73.0	34.1	107.1	2,370.3	10,400.7	22.3	35	97.1
Chemical, petroleum and coal products	871	39.3	14.4	53.7	1,414.4	11,277.8	26.4	62	210.2
Non-metallic mineral products	1,811	34.6	4.4	38.9	916.8	5,379.1	23.7	21	138.2
Basic metal products	567	67.7	5.9	73.5	2,019.2	14,053.4	27.5	130	191.2
Fabricated metal products	4,349	80.2	17.3	97.4	1,936.7	8,463.6	20.1	22	86.9
Transport equipment	1,384	96.3	15.3	111.5	2,464.9	10,983.3	22.1	81	98.4
Other machinery and equipment	3,814	97.6	30.6	128.2	2,658.1	11,566.3	20.8	34	90.2
Miscellaneous manufacturing	2,368	42.0	18.8	60.7	1,198.2	6,121.0	19.9	26	100.8
Total manufacturing	**28,846**	**750.4**	**274.3**	**1,024.8**	**21,516.3**	**116,531.8**	**21.1**	**36**	**113.7**
			1987–88						
Food, beverages and tobacco	3,938	120.6	55.0	175.5	3,866.0	27,764.7	22.0	45	158.2
Textiles	731	21.3	14.1	35.4	754.7	3,891.0	21.3	48	109.9
Clothing and footwear	2,332	18.6	56.6	75.2	1,217.2	4,672.1	16.2	32	62.1
Wood, wood products and furniture	4,688	68.6	13.4	82.0	1,503.3	7,006.5	18.3	17	85.5
Paper, paper products, printing and publishing	3,356	73.2	36.3	109.5	2,680.2	12,018.3	24.5	33	109.7
Chemical, petroleum and coal products	960	39.6	14.7	54.3	1,566.2	12,877.3	28.8	57	237.1
Non-metallic mineral products	1,863	36.0	45	40.5	1,006.2	6,020.8	24.9	22	148.8
Basic metal products	582	68.5	6.2	74.7	2,150.3	16,358.2	28.8	128	219.0
Fabricated metal products	4,848	86.5	18.3	104.8	2,197.6	10,113.0	21.0	22	96.5
Transport equipment	1,494	95.4	15.9	111.3	2,561.9	12,763.8	23.1	75	114.6
Other machinery and equipment	4,220	102.2	32.8	135.0	3,035.9	13,088.4	22.6	32	97.5
Miscellaneous manufacturing	2,594	44.7	20.8	65.5	1,410.4	7,245.5	21.5	25	110.7
Total manufacturing	**31,606**	**775.2**	**288.6**	**1,063.8**	**23,949.8**	**133,819.6**	**22.7**	**34**	**125.8**

(a) Includes working proprietors. *(b)* Excludes the drawings of working proprietors. *(c)* Excludes working proprietors and their drawings.

Number of establishments

The following figures relate to manufacturing establishments as such and do not include the numbers of separately located administrative offices and ancillary units.

MANUFACTURING ESTABLISHMENTS—NUMBER OF ESTABLISHMENTS IN OPERATION AT 30 JUNE 1988 BY INDUSTRY

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	1,060	1,242	709	387	376	121	25	18	3,938
23	Textiles	255	313	58	45	45	11	4	—	731
24	Clothing and footwear	865	1,089	192	95	74	12	1	4	2,332
25	Wood, wood products and furniture	1,409	1,363	855	377	451	176	19	38	4,688
26	Paper, paper products, printing and publishing	1,327	1,023	400	231	247	63	23	42	3,356
27	Chemical, petroleum and coal products	407	301	112	47	76	16	1	—	960
28	Non-metallic mineral products	600	439	388	150	199	51	22	14	1,863
29	Basic metal products	189	202	78	48	48	11	4	2	582
31	Fabricated metal products	1,820	1,283	752	404	430	109	34	16	4,848
32	Transport equipment	458	421	273	138	165	22	11	6	1,494
33	Other machinery and equipment	1,629	1,317	450	358	368	61	15	22	4,220
34	Miscellaneous manufacturing	900	865	357	225	196	33	13	5	2,594
21–34	**Total manufacturing—**									
	1987–88	**10,919**	**9,858**	**4,624**	**2,505**	**2,675**	**686**	**172**	**167**	**31,606**
	1986–87	9,811	9,109	4,090	2,267	2,660	634	145	130	28,846
	1984–85	10,218	8,499	3,392	2,196	2,451	575	137	143	27,611

Employment

The statistics on the number of persons employed shown in the following table relate to end of June employment, including working proprietors and those persons working at separately located administrative offices and ancillary units in the State.

It should be noted that persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in that State, even though the administrative offices or ancillary units may have served establishments located in another State.

MANUFACTURING ESTABLISHMENTS—EMPLOYMENT AT END OF JUNE BY INDUSTRY SUBDIVISION, 1987–88
(No. persons)

Industry subdivision *ASIC code*	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	53,333	51,700	34,566	15,816	12,734	5,974	678	713	175,514
23	Textiles	9,348	19,420	1,263	2,659	1,382	1,287	57	—	35,417
24	Clothing and footwear	22,954	40,145	5,388	4,118	1,754	748	n.p.	n.p.	75,194
25	Wood, wood products and furniture	25,062	21,952	14,446	7,147	8,997	3,560	215	614	81,993
26	Paper, paper products, printing and publishing	39,533	36,078	11,904	7,566	7,413	5,063	454	1,533	109,544
27	Chemical, petroleum and coal products	24,577	19,568	3,843	2,356	3,114	n.p.	n.p.	—	54,316
28	Non-metallic mineral products	13,455	11,001	6,483	3,542	4,769	803	200	201	40,454
29	Basic metal products	36,536	14,734	7,033	6,736	5,882	n.p.	n.p.	n.p.	74,708
31	Fabricated metal products	36,188	32,930	15,434	8,268	9,386	1,659	390	560	104,815
32	Transport equipment	28,447	50,401	11,030	15,735	4,848	706	107	64	111,338
33	Other machinery and equipment	56,626	45,162	10,090	13,625	8,367	780	81	300	135,031
34	Miscellaneous manufacturing	23,194	24,512	6,064	7,600	3,423	517	98	60	65,468
21–34	**Total manufacturing**									
	1987–88	**369,253**	**367,603**	**127,544**	**95,168**	**72,069**	**24,828**	**3,207**	**4,120**	**1,063,792**
	1986–87	358,844	356,992	117,935	90,258	69,452	24,371	2,864	4,071	1,024,787
	1984–85	365,170	357,989	112,245	92,533	64,581	24,573	2,686	3,483	1,023,260

Wages and salaries

The following table shows wages and salaries of all employees of manufacturing establishments including those working at separately located administrative offices and ancillary units in the State. Drawings of working proprietors are excluded.

MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY INDUSTRY SUBDIVISION, 1987–88
($ million)

Industry subdivision *ASIC code*	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	1,232.9	1,195.0	691.4	312.1	293.3	114.7	14.4	12.2	3,866.0
23	Textiles	209.6	422.3	20.8	52.2	24.3	24.7	0.8	—	754.7
24	Clothing and footwear	364.7	679.4	71.0	65.5	24.9	10.2	n.p.	n.p.	1,217.2
25	Wood, wood products and furniture	484.5	405.2	233.1	129.4	161.4	74.4	3.1	12.2	1,503.3
26	Paper, paper products, printing and publishing	1,006.1	904.1	255.0	170.0	159.1	138.5	9.2	38.3	2,680.2
27	Chemical, petroleum and coal products	740.2	549.1	108.5	57.4	86.6	n.p.	n.p.	—	1,566.2
28	Non-metallic mineral products	349.7	277.2	148.5	86.7	116.0	18.8	4.7	4.8	1,006.2
29	Basic metal products	1,063.8	407.5	195.2	177.9	182.3	n.p.	43.8	n.p.	2,150.3
31	Fabricated metal products	804.2	700.7	286.8	155.7	199.8	30.0		n.p.	2,197.6
32	Transport equipment	684.1	1,162.1	224.4	366.6	105.9	15.5	2.1	1.1	2,561.9
33	Other machinery and equipment	1,299.5	1,049.3	204.8	271.8	187.4	14.1	1.5	7.4	3,035.9
34	Miscellaneous manufacturing	520.6	550.2	106.0	158.1	63.7	n.p.	n.p.	1.3	1,410.4
21–34	**Total manufacturing**									
	1987–88	**8,759.8**	**8,302.0**	**2,545.4**	**2,003.4**	**1,604.8**	**562.6**	**81.5**	**90.2**	**23,949.8**
	1986–87	7,911.6	7,443.2	2,263.3	1,809.1	1,407.0	526.4	67.5	88.3	21,516.3
	1984–85	6,988.3	6,550.8	1,933.9	1,604.0	1,137.6	443.0	58.3	64.4	18,780.3

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include sales of goods whether produced by the establishment or not, transfers out of goods to other establishments of the same enterprise; bounties and subsidies on production; plus all other operating revenue from outside the enterprise (such as commission, repair and service revenue and rent, leasing and hiring revenue), plus capital work for own use, or for rental or lease. Receipts from interest, royalties, dividends, and sales of fixed tangible assets are excluded.

MANUFACTURING ESTABLISHMENTS—TURNOVER BY INDUSTRY SUBDIVISION, 1987–88

($ million)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	8,090.5	8,884.0	5,500.6	2,157.3	2,112.4	878.0	89.8	52.1	27,764.7
23	Textiles	1,154.8	1,962.6	138.3	407.0	117.3	108.2	2.9	—	3,891.0
24	Clothing and footwear	1,651.8	2,443.9	227.0	240.6	72.2	33.2	n.p.	n.p.	4,672.1
25	Wood, wood products and furniture	2,323.9	1,798.0	998.4	599.4	786.7	436.1	14.7	49.3	7,006.5
26	Paper, paper products, printing and publishing	4,578.4	4,096.7	1,104.1	732.2	621.7	758.8	29.7	96.7	12,018.3
27	Chemical, petroleum and coal products	5,765.0	3,837.3	1,952.3	447.1	715.7	n.p.	n.p.	—	12,877.3
28	Non-metallic mineral products	2,002.2	1,597.2	1,075.0	476.2	668.0	121.8	34.9	45.4	6,020.8
29	Basic metal products	6,842.2	3,459.6	2,293.1	1,168.0	1,892.9	n.p.	257.8	n.p.	16,358.2
31	Fabricated metal products	3,629.8	3,112.7	1,482.3	708.6	944.9	132.1		n.p.	10,113.0
32	Transport equipment	2,272.6	6,762.2	1,029.4	2,260.3	387.2	42.5	4.6	5.0	12,763.8
33	Other machinery and equipment	5,490.4	4,808.7	860.1	1,131.3	708.9	53.1	8.5	27.3	13,088.4
34	Miscellaneous manufacturing	2,642.0	2,814.0	594.0	757.4	388.9	n.p.	n.p.	3.7	7,245.5
21–34	**Total manufacturing**									
	1987–88	**46,443.4**	**45,576.8**	**17,254.7**	**11,085.5**	**9,416.9**	**3,242.6**	**450.7**	**349.0**	**133,819.6**
	1986–87	40,540.9	39,969.8	14,848.5	9,352.7	8,215.1	3,050.2	404.7	326.9	116,708.8
	1984–85	34,087.4	33,436.3	12,920.6	7,846.7	6,788.5	2,422.9	407.4	298.9	98,208.7

Purchases, transfers in and selected expenses
Stocks
Value added

The above three structural aggregates are now collected triennially and details from the 1986–87 Manufacturing Census are included in *Year Book* No. 72, pages 553–556. These items will again be collected in the next full scale census covering the period 1989–90.

Single Establishment Manufacturing Enterprises with Fewer than Four Persons Employed

SINGLE ESTABLISHMENT MANUFACTURING ENTERPRISES WITH FEWER THAN FOUR PERSONS EMPLOYED: SUMMARY OF OPERATIONS BY INDUSTRY SUBDIVISION, AUSTRALIA, 1987–88

Industry subdivision			*Employment at 30 June (a)*				
ASIC code	*Description*	*Establishments operating at 30 June*	*Males*	*Females*	*Persons*	*Wages and salaries (b)*	*Turnover*
		No.	No.	No.	No.	$m	$m
21	Food, beverages and tobacco	781	1,130	756	1,886	13.4	107.7
23	Textiles	246	316	192	508	4.1	26.6
24	Clothing and footwear	657	553	817	1,370	10.5	60.9
25	Wood, wood products and furniture	3,104	4,995	1,502	6,497	42.7	280.4
26	Paper, paper products, printing and publishing	1,388	1,804	1,241	3,045	31.0	169.9
27	Chemical, petroleum and coal products	228	336	141	477	5.4	34.7
28	Non-metallic mineral products	596	919	362	1,281	9.7	69.7
29	Basic metal products	129	206	54	260	2.8	16.7
31	Fabricated metal products	2,386	3,814	1,267	5,081	44.8	268.7
32	Transport equipment	757	1,291	339	1,630	14.7	84.2
33	Other machinery and equipment	1,778	2,603	1,139	3,742	41.0	202.4
34	Miscellaneous manufacturing	1,819	2,523	1,154	3,677	28.8	172.5
21–34	**Total manufacturing**						
	1987–88	**13,869**	**20,490**	**8,964**	**29,454**	**248.9**	**1,494.3**
	1986–87	13,332	19,165	7,934	27,099	210.6	1,323.0
	1984–85	14,243	21,351	8,148	29,499	195.4	n.a.

(a) Includes working proprietors. *(b)* Excludes the drawings of working proprietors.

Principal Manufacturing Commodities

The factory production of certain commodities is shown in the monthly publications of the ABS, and in the triennial publication, *Manufacturing Commodities, Selected Principal Articles Produced, Australia (Preliminary)* (8365.0). A more comprehensive list of articles produced is contained in the triennial publication, *Manufacturing Commodities, Principal Articles Produced, Australia* (8303.0).

The table following shows the total recorded production of some selected articles manufactured in Australia. A more complete list is published in the triennial ABS publication 8303.0 mentioned above.

QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA

Commodity code	*Article*	*Unit of quantity*	*1986–87*	*1987–88*	*1988–89*
	Acid (in terms of 100%)—				
401.29	Hydrochloric	tonnes	62,318	69,137	63,741
401.37	Nitric	"	203,484	203,547	n.p.
401.57	Sulphuric	'000 tonnes	1,678	1,816	1,904
171.03,07,08	Aerated and carbonated waters	kL	1,205,467	1,346,077	1,447,733
	Animal feeds—				
	From wheat—				
152.06	Pollard	'000 tonnes	241	242	231
159.11	Poultry pellets and crumbles	"	1,639	1,627	1,605
159.15	Poultry mash	"	162	133	118
647.98	Audio cassettes, pre-recorded	'000	21,426	27,118	29,621
	Batteries, wet cell type—				
685.13	Auto (S.L.I.) 6 volts	"	108	95	n.p.
685.17	Auto (S.L.I.) 12 volts	"	2,343	2,280	n.p.
172.02,04,06	Beer *(a)*	ML	1,859	1,891	1,951
064.21	Biscuits (excluding dog biscuits)	tonnes	133,846	138,103	137,890
152.02	Bran (wheaten)	'000 tonnes	95	103	96
172.21	Brandy	kL	1,453	939	n.y.a.
791.11–15	Brassieres	'000	7,821	7,744	8,252
066.01,05	Breakfast food, cereal (ready to eat)	tonnes	92,895	94,631	101,099
471.91,93,98	Bricks, clay	million	2,002	2,032	2,326
261.41	Briquettes, brown coal	'000 tonnes	811	809	751
	Broadwoven fabric *(b)*—				
384.91,93,98; 385.21,23	Cotton (including towelling)	'000 m^2	38,237	39,415	36,243
384.31–87;385.18	Man-made fibres	"	169,586	166,696	190,139
385.01–14,25–31	Wool	"	11,245	10,633	9,648
	Butter (plus direct butter oil) *(c)*	tonnes	103,855	94,241	95,853
789.71–81,83	Cardigans, jumpers, etc.	'000	11,109	9,096	7,977
474.02	Cement, Portland	'000 tonnes	5,920	6,158	6,901
	Cheese *(c)*—				
	Cheddar	tonnes	123,284	119,909	121,634
	Non-cheddar	"	54,185	56,394	68,378
435.22	Coke—metallurgical	'000 tonnes	3,253	3,727	3,889
475.90	Concrete, ready mixed	'000 m^3	13,810	15,093	17,030
	Confectionery—				
104.06–18	Chocolate	tonnes	82,667	85,979	92,227
104.21–29	Other	"	63,288	66,770	64,655
452.04	Copper, refined *(d)*	'000 tonnes	171	186	211
171.06,10	Cordials and syrups	kL	122,804	130,506	140,448
499.42	Electricity	mil. kWh	130,122	136,869	144,854
523.76–78	Electrodes for manual welding	'000 kg	14,571	13,601	13,001
696.01,03,05	Fans, electric (propeller type)	No.	651,192	736,335	753,394
	Floor coverings—*(e)*				
	Tufted carpets, floor rugs, mats and matting, of, or predominantly of—				
386.63	Man-made fibres	'000 m^2	23,879	23,812	28,251
386.71	Wool or fine animal hair	"	12,473	13,416	13,317
	Flour—				
062.01,32	Wheaten *(f)*	'000 tonnes	1,220	1,266	1,278
	Fruit juices, natural—				
074.61,65	Single strength	kL	227,419	235,829	177,838
127.21	Glucose	tonnes	71,004	84,592	97,035
	Heaters, room—				
651.11–20	Electric radiators, fires and room heaters	'000	603,350	580,315	594,631
651.15	Gas fires and space heaters	No.	59,226	70,381	64,121

For footnotes *see* end of table.

QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*	*Unit of quantity*	*1986–87*	*1987–88*	*1988–89*
	Hosiery—				
789.53,54,55,57,59	Men's	'000 pairs	30,418	26,554	29,187
789.63,65	Children's and infants' (excl. pantihose)	"	17,449	16,946	17,700
051.56,58,59	Ice cream *(g)*	kL	207,676	212,774	208,099
051.87,89,90	Infants', invalids' and health beverages *(h)*	tonnes	29,534	28,258	28,961
	Iron and steel—				
442.04,08	Pig iron	'000 tonnes	5,783	5,455	5,875
442.71–73	Steel ingots (including continuous cast billets)	"	6,387	6,093	6,651
442.28	Blooms and slabs *(i)*	"	3,670	2,660	2,578
076.60	Jams (including conserves, jellies, etc.)	tonnes	30,731	33,625	34,127
	Lawn mowers—				
699.51	Petrol, rotary	No.	276,501	279,122	298,286
453.04	Lead, refined *(j)*	'000 tonnes	142	182	184
063.15	Malt (excluding extract)	'000 tonnes	542	562	590
	Margarine—				
121.01	Table	tonnes	111,267	112,767	107,462
121.06,08	Other	"	40,169	43,721	43,112
844.22,25,27	Mattresses, inner spring	'000	791	851	869
027.02–75	Meat, canned *(k)*	tonnes	24,748	18,403	18,138
482.78	Meters, water consumption	'000	204	244	290
	Milk, condensed, concentrated and evaporated—				
051.28	Skim	tonnes	20,402	24,253	58,178
	Milk in powdered form *(c)*—				
	Wholemilk	"	65,283	63,743	68,038
	Skim or mixed skim and buttermilk	"	128,472	120,010	119,135
	Buttermilk	"	8,435	7,838	7,663
503.13–32	Motors, electric	'000	2,523	2,844	3,077
	Motor vehicles, assembled—				
551.03	Cars	No.	249,428	253,768	265,406
551.06	Station wagons	"	52,629	61,107	63,778
551.21,29	Vehicles for transportation of goods and materials *(l)*	"	20,462	22,860	30,657
	Paint, etc.—				
	Architectural and decorative *(m)*—				
	Solvent thinned—				
410.01	Primers and undercoats	kL	6,515	6,169	6,024
410.03,05,07	Finishing coats	"	20,195	20,679	20,094
	Water thinned—				
410.11,13,15	Plastic latex	"	57,948	64,479	74,002
410.17	Other water based	"	4,129	4,877	5,675
	Paper—				
351.11	Newsprint	'000 tonnes	386	401	401
351.18–65	Other	"	823	834	862
352.01	Paperboard	"	497	557	606
336.12	Particle board (resin bonded)	'000 m^3	705	728	780
	Preserves—				
	Fruit—				
076.04–40	Packaged *(n)*	tonnes	186,474	186,798	158,063
	Vegetables—				
094.04–48	Packaged *(n)*	"	133,782	138,303	138,328
	Pyjamas—				
791.75,80	Men's and boys', woven (suits only)	'000	2,741	2,343	2,132
	Records (phonograph) *(o)*				
647.93,94	45 r.p.m.	"	7,391	8,104	8,407
647.95	33 r.p.m.	"	14,335	14,910	13,403

For footnotes *see* end of table.

QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*	*Unit of quantity*	*1986–87*	*1987–88*	*1988–89*
657.33,34,35	Refrigerators, domestic, electric	'000	289	386	380
403.22–94	Resins, synthetic and plastics, for moulding, extrusion, lamination, calendering, etc	'000 tonnes	651	716	700
123.18	Sauce, tomato (incl. tomato ketchup)	kL	31,883	32,739	33,697
062.04	Semolina	'000 tonnes	50	54	61
	Shirts, (men's and boys')—				
	Men's—				
791.20,21,23	Knitted	'000	15,736	14,861	12,356
791.25,26,30,31	Woven	"	13,352	12,605	12,087
	Boys'—				
791.28,32	Knitted	"	10,818	7,883	5,919
791.34	Woven	"	1,626	1,118	603
805.01	Soap, for personal toilet use	tonnes	27,361	30,365	26,764
127.15	Starch (incl. cornflour)	"	161,940	173,550	180,941
	Stoves, ovens and ranges, domestic cooking—				
661.02,11	Electric *(q)*	No.	183,021	207,738	232,777
662.26,31,34	Gas, upright or elevated (with oven)	"	94,706	93,700	89,938
405.36	Sulphate of ammonia	tonnes	165,397	179,211	161,757
415.07;405.25	Superphosphate *(s)*	'000 tonnes	2,769	3,194	3,681
792.03–10	Swimwear *(t)*	'000	3,905	4,029	4,532
	Tallow (including dripping), rendered—				
391.15	Edible	"	83,061	82,337	74,951
391.24	Inedible	"	268,208	289,059	297,853
647.14–19	Television sets (colour)	No.	210,590	176,756	162,398
	Tiles, roofing—				
475.32	Concrete	'000 m^2	14,388	16,343	21,085
472.15	Terracotta	"	3,285	3,399	3,715
683.53–61	Transformers, chokes and ballasts, for distribution of power and light, etc.	kVA	8,395,724	8,559,212	6,290,420
693.02,04	Washing machines, household, electric	'000	400	394	397
152.14	Wheatmeal for stock feed	'000 tonnes	354	325	334
	Wine, beverage—				
172.42	Fortified	kL	31,766	31,403	n.y.a.
172.46	Unfortified	"	306,804	322,993	n.y.a.
341.32–45	Wood pulp (air dried)	'000 tonnes	906	994	1,036
383.09,11	Wool, scoured or carbonised	tonnes	130,254	126,633	119,842
383.27–31	Wool tops, pure	"	24,474	25,904	26,559
	Yarn (including mixtures)—				
383.79–87	Cotton	"	21,161	20,667	20,332
383.89–95	Worsted	"	5,577	5,493	5,247
383.97,99;384.01,03	Woollen	"	17,485	17,592	16,211
383.46–73	Discontinuous synthetic fibre	"	11,389	10,173	10,359
457.04	Zinc, refined *(d)*	'000 tonnes	300	306	303

(a) Excludes waste beer and beverages with alcohol content of 1.15 per cent or less. *(b)* Includes mixture predominantly of the fibre named. *(c) Source:* Australian Dairy Corporation. *(d)* Primary origin only. *Source:* Bureau of Mineral Resources. *(e)* Excludes underfelts and products of coir, sisal or other hard fibres. *(f)* Includes wheatmeal for baking, includes sharps. *(g)* Includes ice cream combined with other confections, including those aerated milk-based confections which contain 10 per cent or more butterfat. *(h)* Includes infants milk powder, malted milk, etc. *(i)* From rolling and forging of iron and steel (primary mills output). *(j)* Includes lead-content of lead alloys from primary sources but excludes lead-silver bullion. *(k)* Excludes poultry, ham and bacon and baby food. *(l)* Includes utilities, panel vans, prime movers for semi-trailers and units consisting of chassis, engine and cabs produced for sale and transfer out as such. Excludes off-highway trucks (e.g. dump wagons), materials handling trucks (e.g. forklift trucks) and semi-trailers. *(m)* Excludes heavy duty coatings. *(n)* Packaged: canned, bottled or stored in plastic or other containers. Excludes dehydrated or evaporated fruits and fruit pulp and puree, and frozen vegetables. *(o)* Conventional stereophonic discs. *(q)* Includes wall ovens but excludes cooking tops and portable units. *(s)* Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22 per cent P_2O_5 equivalent. *(t)* Includes board shorts. Excludes infants' and babies' swimwear.

Enterprise Statistics—Integrated Economic Censuses and Surveys

The Integrated Economic Censuses and Surveys conducted by the Australian Bureau of Statistics have, since 1977–78, included enterprises primarily engaged in Mining and Manufacturing, with Electricity and Gas Production and Distribution collected in 1977–78 and annually from 1979–80, while other economic sectors are approached on a rotating basis. Statistics in respect of enterprises have been published in *Annual Economic Censuses and Surveys: Enterprise Statistics, Australia* (8103.0).

Below is a brief summary of the Censuses' collection units and methodology and a summary table of enterprise statistics. More detailed explanations on the Censuses are shown in the above publication.

The business units, as standardised for purposes of the Economic Censuses and Surveys are at three levels: the establishment (and associated administrative offices and ancillary units); the enterprise; and the enterprise group.

The central unit from which statistical information was collected is the *enterprise*, defined broadly as the unit comprising all operations in Australia of a single operating legal entity. The term legal entity is used to cover a sole proprietor, or partnership, or company, but also includes cooperative societies and some government authorities mainly engaged in the industries included in the Censuses and Surveys.

The group of legal entities owned or controlled by a single company is recognised as a separate type of unit—the *enterprise group*. The basic unit for which most data were collected and tabulated is *the establishment*, defined in general as a unit comprising all the operations carried on by the one enterprise at a single physical location—such as an individual factory, shop or mine.

In the Integrated Economic Censuses and Surveys, information was collected using a common framework of reporting units (enterprises and establishments as defined above) and data concepts, in accordance with a standard industrial classification (the *Australian Standard Industrial Classification*, 1983 Edition). As a result the statistics for the industries covered by the Censuses and Surveys are provided with no overlapping or gaps in scope, so that aggregates for economic data such as value added, employment, wages and salaries, fixed capital expenditure and stocks are obtained on a consistent basis for all industries and business units covered by the Censuses and Surveys. A detailed description of the Integration of Economic Censuses is contained in Chapter 31, *Year Book* No. 56, 1970.

ENTERPRISES—SUMMARY OF OPERATION BY INDUSTRY, AUSTRALIA

Industry and year	*Enterprises operating during year (a)*	*Persons employed at 30 June (b)*	*Wages and salaries (c)*	*Turnover (d)*	*Purchases and selected expenses (e)*	*Rent leasing and hiring expenses (f)*	*Stocks (g)*		*Value added (h)*	*Fixed capital expend-iture less disposals (i)*
							Opening	*Closing*		
	No.	No.	$m	$m	$m	$m	$m	$m	$m	$m
Mining (excluding services to Mining)—										
1983–84	890	72,743	2,002.5	12,687.7	4,210.1	202.3	1,853.2	1,852.7	8,274.7	2,428.7
1984–85	925	76,696	2,235.1	15,891.3	5,237.3	197.8	1,993.5	1,895.4	10,358.1	1,920.7
Manufacturing—										
1983–84	22,807	1,026,041	17,679.9	88,744.3	51,613.7	1,484.1	14,085.2	14,294.1	35,855.3	2,914.0
1984–85	23,105	1,046,139	19,215.5	99,525.5	58,624.9	1,630.3	14,386.1	16,052.4	40,935.9	3,236.1
Electricity and Gas—										
1983–84	97	94,981	2,119.0	10,383.4	4,762.4	163.9	766.2	785.8	5,476.9	3,684.2
1984–85	97	94,519	2,295.3	11,461.2	5,252.6	266.5	781.6	697.2	5,857.6	3,076.6

(a) The number of enterprises in operation for all or any part of the year which were in the scope of the censuses and surveys. *(b)* Working proprietors and employees, including part-time and casual employees as at 30 June. *(c)* Wages and salaries paid during the year to employees of the enterprise. Drawings of working proprietors are excluded. *(d)* Sales of goods, commission revenue, repair and service revenue, rent, leasing and hiring revenue, government bounties and subsidies and all other operating revenue except interest, royalties and dividends. *(e)* Purchases by the enterprise of goods for manufacture or resale, containers, stores and supplies (except office supplies) and charges for fuels, electricity and water, freight and cartage, vehicle running expenses, sales commission expenses, repair and maintenance expenses, and commission and subcontract expenses. *(f)* Amount paid for rent and leasing premises, vehicles and equipment. *(g)* Stocks of materials, fuels etc. work in progress and finished goods owned by the enterprise. *(h)* This is derived as turnover plus increase (less decrease) in stocks, less purchases and selected expenses, less rent, leasing and hiring expenses. *(i)* Outlay on new assets (including progress payments) and land and secondhand fixed tangible assets less disposals.

Foreign Ownership and Control in the Manufacturing Industry

Summary information on foreign ownership and control in the manufacturing industry is given in Chapter 26.

RETAIL TRADE

Estimates of the value of retail turnover (excluding motor vehicles, parts, petrol, etc.) by industry are obtained by means of sample surveys. Prior to June 1988, these series reflect retail sales adjusted to turnover basis, and exclude the Northern Territory.

TURNOVER OF RETAIL ESTABLISHMENTS (EXCLUDING MOTOR VEHICLES, PARTS, PETROL, ETC.) AT CURRENT PRICES: INDUSTRIES
($ million)

Description	*1986–87*	*1987–88*	*1988–89*
Grocers, confectioners, tobacconists	18,221.0	19,350.5	21,178.3
Butchers	1,707.5	1,696.0	1,963.0
Other food stores	3,953.7	4,471.1	4,774.6
Hotels, liquor stores, licensed clubs	8,943.1	9,838.5	10,168.1
Cafes and restaurants	n.a.	n.a.	3,288.3
Clothing and fabric stores	5,546.6	6,019.4	6,338.8
Department and general stores	8,183.2	8,748.8	9,226.0
Footwear stores	896.3	979.6	1,007.7
Domestic hardware stores, jewellers	2,042.9	2,317.5	2,659.1
Electrical goods stores	3,693.1	4,111.5	4,456.2
Furniture stores	1,558.9	1,618.7	1,664.3
Floor coverings stores	552.6	667.7	718.8
Pharmacies	2,248.4	2,477.6	2,876.9
Newsagents	2,356.9	2,563.4	2,760.7
Other stores	n.a.	n.a.	3,762.2
Total	**65,420.3**	**70,880.7**	**76,842.2**

Service Industries

The 1986–87 Service Industries Survey covered ten personal and travel related industries. Seven of these were also part of the 1979–80 Census of Retail and Selected Services Industries, therefore allowing some comparisons between the two periods. (These industries are motion picture theatres, cafes and restaurants, hotels (mainly drinking places), accommodation, licensed clubs, laundries and dry cleaners, and hairdressers and beauty salons.) Data for motor vehicle hire, travel agency services and photography services have been collected for the first time.

Also collected as part of the 1986–87 Service Industries Survey were data on selected tourist attractions. A brief summary of details of this survey is available in Chapter 12, Culture, Recreation, Environment and Tourism. Further details by type of attraction are shown in *Tourist Attractions* (8661.0).

The 1987–88 Service Industries Survey covered twelve professional and business related industries. The industries included in the 1987–88 Survey have not previously been surveyed in this detail by ABS so there are no earlier statistics available to which they can be compared. Detailed statistics for each of the industries covered, plus a number of 'sub-industries', will be progressively released during 1990.

A brief summary of details of the 1986–87 and 1987–88 Surveys is contained in the table below. A list of available publications containing more detailed statistics is shown in the Bibliography at the end of this chapter.

SELECTED SERVICE INDUSTRIES: SUMMARY OF OPERATIONS
AUSTRALIA, 1986–87 AND 1987–88

ASIC Class	*Enterprises operating at end June*	*Persons employed at end June*	*Wages and salaries(a)*	*Turnover*	*Gross product*	*Net operating surplus*
	No.	No.	$'000	$m	$m	$m
1986–87—						
Motor vehicle hire (5711)	281	3,173	54.8	446.8	139.5	58.0
Travel agency services (5741) (b)	1,494	11,632	191.5	428.8	1,207.2	–0.2
Motion picture theatres (9133)	202	4,472	56.6	256.5	96.2	29.2
Cafes and restaurants (9231)	8,489	85,974	646.7	2,583.9	942.2	221.5
Hotels (mainly drinking places) (9232)	4,986	82,644	814.8	4,807.6	1,270.0	370.5
Accommodation (9233)	4,841	56,364	640.3	2,281.5	1,078.8	310.7
Licensed clubs (9241–3)	3,927	52,336	687.8	2,636.1	1,059.4	229.0
Laundries and dry cleaners (9340) *(c)*	1,581	12,452	142.0	400.1	228.4	56.6
Hairdressers and beauty salons (9351–2)	11,027	39,628	300.0	790.0	433.0	113.1
Photography services (9361)	1,547	4,290	36.5	183.3	67.6	23.3
1987–88—						
Real estate agents (6310)	5,741	36,408	835	2,201	1,262	356
Architectural services (6334)	4,534	17,777	354	1,030	584	185
Surveying services (6335)	1,104	6,878	116	309	178	46
Engineering and technical services (6336) *(d)*	5,186	28,357	682	1,716	1,000	223
Legal services (6371)	6,459	55,402	500	3,069	1,427	884
Accounting services (6372)	6,048	49,510	503	2,334	1,050	497
Computing services (6381)	3,691	24,067	585	1,628	775	78
Advertising services (6382)	2,390	16,051	423	4,675	619	147
Debt collecting and credit reporting services (6385)	234	2,669	52	142	69	12
Pest control services (6386)	565	2,902	44	135	76	25
Cleaning services (6387) *(e)*	4,181	44,324	330	622	434	81
Security/protection and business services n.e.c. (6388 and 6389) *(f)*	1,087	25,483	365	839	515	120

(a) Gross earnings of all employees before taxation and other deductions. Drawings of working proprietors and partners are excluded. *(b)* Includes Australian branch offices of foreign resident airlines and the travel agency divisions of the major financial institutions (mainly banks). *(c)* Excludes carpet cleaning services. *(d)* Includes quantity surveyors. *(e)* Includes carpet cleaning services. *(f)* Excludes quantity surveyors.

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Wholesale Establishments: Details of Operation by Industry Class, Australia (8638.0)

Selected Tourism and Personal Service Industries: Summary of Operations, Australia, 1986–87, Preliminary (8650.0)

1986–87 Motor Vehicle Hire, Australia (8652.0)

1986–87 Travel Agency Services, Australia (8653.0)

1986–87 Motion Picture Theatres, Australia (8654.0)

1986–87 Cafes and Restaurants, Australia (8655.0)

1986–87 Hotels and Accommodation, Australia (8656.0)

1986–87 Licensed Clubs, Australia (8657.0)

1986–87 Laundries and Dry Cleaners, Australia (8658.0)

1986–87 Hairdressers and Beauty Salons, Australia (8659.0)

1986–87 Photography Services, Australia (8660.0)

1986–87 Tourist Attractions, Australia (8661.0)

Professional and Business Services Industries, Summary Operating Statistics, Australia, 1987–88 (8662.0)

—Detailed statistics for the following industries are available by contacting the ABS

- Real estate agents
- Architectural services
- Surveying services
- Engineering and technical services
- Legal services
- Accounting services
- Computing services
- Advertising services
- Debt collecting and credit reporting services
- Pest control services
- Cleaning services
- Security/protection and business services n.e.c.

19

PRICES

RETAIL PRICES AND PRICE INDEXES

Retail prices of food and groceries and average rentals of houses have been collected by the Australian Bureau of Statistics for the years extending back to 1901 and, in some cases, by the statistical offices of various States for earlier years.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been collected at frequent and regular intervals since 1923. (Comparable information was collected for the month of November in each year from 1914 to 1922.) The range of items for which retail prices data are obtained was considerably expanded in 1948 and in later years. Average retail prices of certain food and grocery items in the relevant periods were published in the annual *Labour Report* (now discontinued). An historical perspective giving more detail of these earlier indexes was published in *Year Book Australia 1988* (No. 71).

The current retail price index, the Consumer Price Index (CPI), was published for the first time in August 1960 and was compiled retrospectively to the September quarter 1948. A description of the Consumer Price Index is given below.

Further information about the CPI is contained in a booklet entitled *A Guide to the Consumer Price Index* (6440.0) which is available from the ABS on request. For a more detailed account, *The Australian Consumer Price Index, Concepts, Sources and Methods* (6461.0) describes what the index measures, the goods and services included in it, and how the index is produced; it also describes the problems encountered in compiling the CPI and how those are dealt with.

Consumer Price Index

The Consumer Price Index (CPI) measures quarterly changes in the price of a ‘basket’ of goods and services which account for a high proportion of expenditures by metropolitan wage and salary earner households. This ‘basket’ covers a wide range of goods and services arranged in the following eight groups: food; clothing; housing; household equipment and operation; transportation; tobacco and alcohol; health and personal care; and recreation and education. The eight groups in turn are divided into 35 sub-groups and 107 expenditure classes.

From its inception in 1960, the CPI covered the six State capital cities. In 1964 the geographical coverage of the CPI was extended to include Canberra. From June quarter 1982 geographic coverage was further extended to include Darwin.

Index numbers at the Group and All Groups levels are published for each capital city and for the weighted average of eight capital cities. Sub-group index numbers are published for the weighted average of eight capital cities.

Conceptual basis for measuring price changes

The CPI is a quarterly measure of the change in average retail price levels. It provides a method of comparing the average price level for a quarter with the average price level of the reference base year or changes in the average price level from one quarter to the next. In measuring price changes, the CPI aims to measure only pure price changes (i.e. price changes excluding the effects of any changes in the quality or quantity of the goods or services concerned)—in other words to measure, each quarter, the change in the cost of purchasing an identical basket of goods and services. The CPI is a measure of changes in transaction prices—the prices actually paid by consumers for the goods and services they buy. It is not concerned with nominal, recommended or list prices (unless they are the prices consumers actually pay).

The CPI is often loosely, and incorrectly, referred to as a cost-of-living index. However, a true cost-of-living index (if such a measure could be compiled) would not be the same thing as a fixed-weight retail price index like the CPI. A cost-of-living index would need to take account of changes in standards of living and the substitutions that consumers make in response to changing market conditions, such as changes in supply, or in response to disparate price movements.

The CPI measures price change over time and does not provide comparisons between relative price levels at a particular date. For example, it does not show whether beef is dearer than lamb, or whether bus fares are dearer than train fares. The fact that the index number for any particular component is higher than that for another component in a particular quarter does not mean that the first component is more expensive than the second—it merely means that, since the reference base year, prices for the first component have risen more than prices for the second component. Similarly, the CPI does not provide any basis for measuring relative price levels between the different cities. For example it says nothing about whether prices are higher in Sydney or Perth—it shows only whether prices have changed more in Sydney or in Perth.

Index population

Because the spending patterns of various groups in the population differ somewhat, the pattern of one large group, fairly homogeneous in its spending habits, is chosen for the purpose of calculating the CPI. The CPI population group is, in concept, metropolitan employee households. For this purpose employee households are defined as those households which obtain the major part of their household income from wages and salaries; metropolitan means the eight capital city Statistical Divisions.

Weighting pattern

Each of the 107 expenditure classes in the current CPI has a fixed weight (i.e. the measure of its relative importance). Details of the weighting pattern are shown in the following table. More detailed information on weighting is published in *The Australian Consumer Price Index: Concepts, Sources and Methods* (6461.0).

Changes in the weighting pattern have been made at approximately five-yearly intervals to take account of changes in household spending patterns. The CPI, in fact, comprises eleven separate series which have been linked to form a continuous series. The eleventh series (i.e. the current series) was introduced in the March quarter 1987, with a weighting pattern based on estimated household expenditure in 1984.

The CPI 'basket of goods and services' covers items which are considered representative of metropolitan households' spending habits and whose prices can be associated with an identifiable and specific quantity of a commodity or service. Income taxes and personal savings, on the other hand, do not form part of the CPI because they cannot be clearly associated with the purchase of a specific quantity of any goods or services.

CONSUMER PRICE INDEX—ELEVENTH SERIES: WEIGHTING PATTERN AT DECEMBER QUARTER 1986 WEIGHTED AVERAGE OF EIGHT CAPITAL CITIES

Groups and sub-groups	*Percentage contribution to the all groups CPI*
Food	**19.013**
Dairy products	1.536
Cereal products	1.978
Meat and seafoods	3.495
Fresh fruit and vegetables	1.921
Processed fruit and vegetables	0.852
Soft drinks, ice cream and confectionery	2.829
Meals out and take away foods	4.671
Other food	1.731
Clothing	**6.898**
Men's and boys' clothing	1.952
Women's and girls' clothing	3.102
Fabrics and knitting wool	0.499
Footwear	1.107
Dry cleaning and shoe repairs	0.238
Housing	**14.062**
Rents	4.450
Home ownership	9.612
Household Equipment and Operation	**18.429**
Fuel and light	2.442
Furniture and floor coverings	4.115
Appliances	1.535
Household textiles	0.690
Household utensils and tools	1.748
Household supplies and services	3.918
Postal and telephone services	1.478
Consumer credit charges	2.503
Transportation	**17.025**
Private motoring	16.069
Urban transport fares	0.956
Tobacco and Alcohol	**8.173**
Alcoholic drinks	5.955
Cigarettes and tobacco	2.218
Health and Personal Care	**5.596**
Health services	2.992
Personal care products	1.943
Hairdressing services	0.661
Recreation and Education	**10.804**
Books, newspapers and magazines	1.229
Recreational goods	2.877
Holiday travel and accommodation	3.135
Recreational services	2.305
Education and child care	1.258
Total All Groups	**100.000**

Collecting prices

Since the CPI is designed to measure the impact of changing prices on metropolitan wage and salary earner households, price movements are monitored in the kinds of retail outlets or other establishments where such households normally purchase goods and services. This involves collecting prices from many sources including supermarkets, department stores, footwear stores, restaurants, motor vehicle dealers and service stations, dental surgeries, hotels and clubs, schools, hairdressers, travel agents, airlines, bus operators, house builders, real estate developers, electricians and plumbers. Items such as bus, rail and air fares, electricity and gas charges, telephone charges and local authority rates are collected from the appropriate authorities. Information on rents is obtained from property management companies and government housing authorities. In total, around 100,000 separate price quotations are collected each quarter.

Prices of the goods and services included in the CPI are generally collected quarterly. However, some important items are priced monthly or more frequently (e.g. bread, fresh meat and fish, fresh fruit and vegetables, petrol, alcohol and tobacco) and a small number are collected annually (e.g. seasonal clothing, local government rates and charges).

The bulk of items for which prices are collected quarterly are priced at the middle of the mid-month of the quarter (i.e. in August, November, February and May), but, to facilitate a more even spread of the field collection workload, some goods and services are priced in the first or third months of each quarter. Items priced in the third month are generally those subject to price changes at discrete points of time (e.g. electricity and postal charges); in these cases information is obtained of any changes in price during the quarter so that an average price for the whole quarter can be calculated.

The prices used in the CPI are those that any member of the public would have to pay on the pricing day to purchase the specified good or service. Any sales or excise taxes which the consumer must pay when purchasing specific items are included in the CPI price. Sale prices, discount prices and 'specials' are reflected in the CPI so long as the items concerned are of normal quality (i.e. not damaged or shop soiled) and are offered for sale in reasonable quantities. To ensure that the price movements reflect the experience of the bulk of the metropolitan population, the brands and the varieties of the items which are priced are generally those which sell in greatest volume.

Changes in quality

Since the CPI aims to measure the price change of a constant basket of goods and services over time it is necessary to ensure that identical or equivalent items are priced in successive time periods. This involves evaluating changes in the quality of goods and services included in the index and removing the effects of such changes so that the index reflects only the price change.

Periodic revision of the CPI

The CPI is periodically revised in order to ensure it continues to reflect current conditions. CPI revisions have usually been carried out at approximately five-yearly intervals, the most recent having been completed in March 1987. Previous revisions of the CPI were introduced at: December quarter 1963; December quarter 1968; December quarter 1973; September quarter 1974; September quarter 1976; and March quarter 1982. Following each revision, the new series with its changed composition and weighting pattern is linked to the previous series to form one continuous series. The process of linking ensures that the continuous series reflects only price variations and not differences in costs of the old and new baskets.

CONSUMER PRICE INDEX: ALL GROUPS INDEX NUMBERS
(Base of each index: Year 1980–81 = 100.0) (a)

Year	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra	Darwin	Weighted average of eight capital cities
1979–80	91.1	91.4	91.5	91.6	91.9	91.6	91.1	..	*(b)*91.4
1980–81	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981–82	110.2	110.4	110.7	110.5	111.2	110.0	110.7	111.1	110.4
1982–83	123.4	122.8	122.9	123.5	122.5	121.8	124.0	123.1	123.1
1983–84	130.9	132.1	131.7	132.3	131.0	129.9	132.3	130.2	131.6
1984–85	136.0	138.1	137.9	138.7	136.1	136.1	138.8	135.1	137.2
1985–86	147.5	149.8	149.0	150.2	147.1	147.9	150.8	146.2	148.7
1986–87	161.4	163.9	161.8	164.0	161.8	162.5	163.4	159.3	162.6
1987–88	173.7	175.9	173.1	175.0	173.3	174.4	174.7	170.6	174.5
1988–89 *(c)*	187.7	187.9	185.4	187.8	186.1	185.3	186.3	178.9	187.3

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities. *(b)* Prior to 1980–81 index numbers are for weighted average of six State capital cities. *(c)* These series have been affected by a change in the treatment of mortgage interest charges from March Quarter 1989.

CONSUMER PRICE INDEX: GROUP INDEX NUMBERS WEIGHTED AVERAGE OF EIGHT CAPITAL CITIES
(Base of each index: Year 1980–81 = 100.0 unless otherwise noted)

Year	*Food*	*Clothing*	*Housing*	*Household equipment and operation*	*Transportation*	*Tobacco and alcohol*	*Health and personal care*	*Recreation and education (a)*	*All groups*
1979–80 *(b)*	90.6	93.3	91.0	90.0	91.3	93.6	91.1	..	91.4
1980–81	100.0	100.0	100.0	100.0	100.0	100.0	100.0	..	100.0
1981–82	108.6	107.1	111.1	110.6	110.3	109.2	124.2	..	110.4
1982–83	118.5	114.2	122.8	123.8	124.2	124.1	153.2	107.7	123.1
1983–84	127.7	120.9	131.5	132.6	134.8	139.6	146.5	114.5	131.6
1984–85	134.4	128.4	141.4	138.9	143.4	151.3	121.8	118.9	137.2
1985–86	144.7	139.0	153.4	150.2	155.5	165.1	133.0	129.5	148.7
1986–87	156.3	152.3	164.8	161.2	172.9	182.5	154.4	141.5	162.6
1987–88	164.5	164.2	176.2	172.4	186.4	197.8	171.9	152.6	174.5
1988–89 *(c)*	179.9	175.9	198.4	182.2	193.7	209.1	186.3	162.1	187.3

(a) Base: March quarter 1982 = 100.0. Group index not compiled for earlier quarters. *(b)* Prior to 1980–81 index numbers are for weighted average of six State capital cities. *(c)* Series for Housing and all groups have been affected by a change in the treatment of mortgage interest charges from March Quarter 1989.

CONSUMER PRICE INDEX NUMBERS: AUSTRALIA AND OTHER COUNTRIES (a)
(Base of each index: Year 1980 = 100.0)

Period	*Australia (b)*	*Canada*	*Federal Republic of Germany*	*Indonesia*	*Japan*	*New Zealand*	*United Kingdom*	*United States of America*
Year—								
1983	134	132	116	137	110	144	127	121
1984	140	138	118	152	112	153	133	126
1985	149	143	121	159	114	176	142	131
1986	162	149	121	168	115	200	146	133
1987	176	156	121	184	115	231	152	138
1988	189	162	122	199	116	245	160	144
Quarter—								
1987—								
Sept.	178	157	121	185	116	234	153	139
Dec.	181	158	121	191	116	238	154	140
1988—								
Mar.	184	159	122	194	115	243	155	141
June	187	161	122	197	116	244	159	143
Sept.	191	163	123	201	116	244	161	145
Dec.	195	164	123	203	117	250	165	146

(a) The composition of these indexes varies considerably in the various countries. The index numbers show changes in prices in each country over time and do not measure relative price levels between countries. *(b)* Consumer Price Index (All Groups) converted to base: 1980 = 100.0. *Source*: Monthly Bulletin of Statistics of the Statistical Office of the United Nations.

Long-term linked series

To provide an approximate long-term measure of retail price change for the period since the first Australian retail price index was compiled, a single series of index numbers has been constructed by linking together selected retail price index series from amongst those described above. The index numbers are expressed on a reference base 1945 = 100, which was the end of a period of relative price stability during World War II. The successive series linked together to produce this long-term series of index numbers are:

- from 1901 to 1914, the A Series Index;
- from 1914 to 1946–47, the C Series Index;
- from 1946–47 to 1948–49, a combination of the C Series Index (excluding rent) and the housing group of the CPI;
- from 1948–49 onwards, the CPI.

A considerable range of information on retail prices both in the form of index numbers and average retail prices, for various localities in Australia (in some cases back to 1901) is available in the *Labour Report*, published by the ABS continuously from 1912 to 1973. Various editions of the *Labour Report* also contained detailed descriptions of the methodology used in compiling the various indexes and details of their composition and weighting. A comprehensive description of the C Series Index, including details of its composition and weighting, was last published in *Labour Report* No. 41 in 1952. Descriptive material on the Interim Retail Price Index was last published in *Labour Report* No. 46 in 1958.

RETAIL PRICE INDEX NUMBERS—AUSTRALIA (a)
LONG TERM LINKED SERIES
(Base: Year 1945 = 100)

Year	*Index number*	*Year*	*Index number*	*Year*	*Index number*
1901	47	1931	78	1961	252
1902	50	1932	74	1962	251
1903	49	1933	71	1963	252
1904	46	1934	73	1964	258
1905	48	1935	74	1965	268
1906	48	1936	75	1966	276
1907	48	1937	78	1967	286
1908	51	1938	80	1968	293
1909	51	1939	82	1969	302
1910	52	1940	85	1970	313
1911	53	1941	89	1971	332
1912	59	1942	97	1972	352
1913	59	1943	101	1973	385
1914	61	1944	100	1974	443
1915	70	1945	100	1975	510
1916	71	1946	102	1976	579
1917	75	1947	106	1977	650
1918	80	1948	117	1978	702
1919	91	1949	128	1979	766
1920	103	1950	140	1980	844
1921	90	1951	167	1981	926
1922	87	1952	196	1982	1,028
1923	89	1953	205	1983	1,132
1924	88	1954	206	1984	1,177
1925	88	1955	211	1985	1,257
1926	90	1956	224	1986	1,370
1927	89	1957	229	1987	1,487
1928	89	1958	233	1988	1,594
1929	91	1959	237		
1930	87	1960	245		

(a) The index numbers relate to the weighted average of six State capital cities up to 1980; from 1981 they relate to the weighted average of eight capital cities.

Average retail prices

Average retail prices for a range of selected (mainly food) items have been published regularly since 1901. Since 1962, data on average retail prices in each of the capital cities have been published quarterly in *Average Retail Prices of Selected Items* (6403.0). Prior to that date information was published in the annual *Labour Report* (now discontinued).

Indexes of relative retail prices of food

Since 1962 the ABS has conducted an annual survey of food prices in selected cities and towns throughout Australia. Information from this survey is used to compile index numbers measuring the relative levels of food prices in the different localities at the time the survey is conducted (currently in May each year). The index numbers are produced by combining the prices for the selected food items using a common set of weights (derived from the weighting pattern of the CPI Food Group). The resulting index numbers are expressed on the base: Weighted Average of Eight Capital Cities = 100.

Index numbers for localities in the States are available from the ABS on request.

House price indexes

House price indexes are compiled for use in calculating the mortgage interest charges component of the CPI. Separate indexes are constructed for *Established houses* and *Project homes* and these are published quarterly for each of the eight capital cities in *House Price Indexes: Eight Capital Cities* (6416.0)

PRODUCER AND WHOLESALE PRICE INDEXES

Historical perspective

The first price index of this kind compiled by the ABS was the Melbourne Wholesale Price Index which was introduced in 1912 with index numbers compiled back to 1861 from prices extracted from newspapers and trade publications. Index numbers were compiled up to 1961. The index related chiefly to basic materials and foods weighted in accordance with consumption in about the year 1910 and neither the list of items nor the weighting was varied during the life of the index. A description of the index and a list of the commodities included was last published in *Labour Report* No. 38, 1949.

The next index published was the Wholesale Price (Basic Materials and Foodstuffs) Index which was introduced in 1939; index numbers are available for the period 1928 to 1970. The index related to commodities in their basic or primary form and prices were obtained as near as possible to the point where they made their first effective impact on the local price structure. With few exceptions, prices were obtained from Melbourne sources. The weights were based on estimates of the average annual consumption of the commodities in Australia during the period 1928–29 to 1934–35 inclusive. A list of the commodities and other information concerning the index was last published in *Labour Report* No. 53, 1967.

During the 1960s the ABS began producing a range of price indexes covering materials used and articles produced by defined sectors of the Australian economy. The following indexes are now published monthly:

- Price Index of Materials Used in House Building
- Price Index of Materials Used in Building Other than House Building
- Price Indexes of Materials Used in Manufacturing Industries
- Price Indexes of Articles Produced by Manufacturing Industry.
- Price Indexes of Materials Used in Coal Mining

Prices are collected from representative suppliers or manufacturers of the materials or articles included in the indexes. Mid month prices are generally used to compile the two building materials indexes, the Price Indexes of Articles Produced by Manufacturing Industry and the Price Indexes of Materials Used in Coal Mining. Average monthly prices are mainly used to compile the Price Indexes of Materials Used in Manufacturing Industries.

Following is a table giving a broad indication of long-term price changes, drawing on the producer and wholesale price indexes available, on a common reference base: Year 1968–69 = 100.0. The Melbourne Wholesale Price Index and the Wholesale Price (Basic Materials and Foodstuffs) Index have been linked at 1928–29 to provide a continuous series.

PRODUCER AND WHOLESALE PRICE INDEXES
(Reference base: Year 1968–69 = 100.0)

	Melbourne Wholesale Price Index (All Groups)	*Wholesale Price (Basic Materials and Foodstuffs) Index (All Groups)*	*Price Index of Materials used in House Building (All Groups)*	*Price Index of Materials used in Building Other than House Building (All Groups)*	*Price Indexes of Materials used in Manufacturing Industries (Manufacturing Division)*	*Price Indexes of Articles Produced by Manufacturing Industry (Manufacturing Division)*
1861	24.2	..	..	..	..	..
1871	19.3	..	..	..	..	..
1881	17.6	..	..	..	..	..
1891	14.9	..	..	..	..	..
1901	15.3	..	..	..	..	..
1911	15.7	..	..	..	..	..
1921	30.0	..	..	..	..	..
1928–29	28.3	28.3	..	..	..	..
1931–32	..	24.4	..	..	..	..
1936–37	..	25.5	..	..	..	..
1941–42	..	31.9	..	..	..	..
1946–47	..	37.0	..	..	..	..
1951–52	..	37.0	..	..	..	..
1956–57	..	76.4	..	..	..	..
1960–61	..	92.5	..	..	..	..
1961–62	..	86.4	..	..	..	..
1962–63	..	87.4	..	..	..	..
1963–64	..	90.0	..	..	..	..
1964–65	..	91.3	..	..	..	..
1965–66	..	95.4	..	..	..	..
1966–67	..	98.4	94.1	94.7	..	..
1967–68	..	99.7	96.6	96.8	..	..
1968–69	..	100.0	100.0	100.0	100.0	100.0
1969–70	..	101.3	104.3	104.6	102.6	103.9
1970–71	..	..	108.8	109.4	100.1	108.5
1971–72	..	..	115.4	116.5	102.6	113.9
1972–73	..	..	123.3	122.1	113.9	120.7
1973–74	..	..	142.3	138.1	134.7	134.6
1974–75	..	..	172.5	169.7	145.1	158.1
1975–76	..	..	195.8	195.3	158.6	177.8
1976–77	..	..	219.1	218.1	182.2	196.9
1977–78	..	..	237.1	236.5	198.5	213.8
1978–79	..	..	252.2	253.9	248.8	237.4
1979–80	..	..	284.9	286.9	321.8	274.9
1980–81	..	..	323.6	323.9	353.2	305.2
1981–82	..	..	355.3	359.8	358.9	328.9
1982–83	..	..	389.0	400.6	388.0	360.2
1983–84	..	..	419.2	422.7	402.1	382.8
1984–85	..	..	452.4	446.2	422.2	404.8
1985–86	..	..	484.6	481.8	442.9	430.3
1986–87	..	..	512.7	519.0	445.0	458.5
1987–88	..	..	551.7	564.7	470.3	492.1
1988–89	..	..	611.3	616.6	477.5	526.0

Price Index of Materials Used in House Building

The Price Index of Materials Used in House Building was first compiled on a reference base 1966–67 = 100.0, using a weighting pattern derived from estimated material usage in 1968–69. Monthly index numbers on a 1966–67 = 100.0 reference base are available for the period July 1966 to September 1986. A detailed description of the first series, including its composition and weighting pattern, is given in the September 1970 issue of the publication *Price Index of Materials Used in House Building* (6408.0) and in *Labour Report* No. 55, 1970.

The current Price Index of Materials Used in House Building for the six State capital cities, on a reference base 1985–86 = 100.0, was introduced in October 1986 and linked to the previous series. The items included, and their weights, were derived from reported values of each material used in selected representative houses constructed in 1985–86. The index for Canberra was introduced in respect of February 1988 on a reference base of 1986–87 = 100.0. Further information concerning the method of compiling the index, including details of its composition and weighting pattern, is given in the October 1986 and February 1988 issues of the publication *Price Index of Materials Used in House Building* (6408.0).

PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
SIX STATE CAPITAL CITIES AND CANBERRA (a)
(Base of each index: Year 1985–86 = 100.0)

Year(b)	*Weighted average of six State capital cities*	*Sydney*	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Canberra*
1983–84	86.0	85.8	88.7	85.4	87.9	83.1	86.5	n.a.
1984–85	93.1	93.3	94.6	92.7	93.4	92.5	93.4	n.a.
1985–86	100.0	100.0	100.0	100.0	100.0	100.0	100.0	n.a.
1986–87	105.8	106.2	105.7	104.6	105.1	106.7	105.0	100.0
1987–88	113.8	114.8	114.3	112.0	110.8	114.2	110.7	109.7
1988–89	126.1	128.4	125.8	123.8	120.9	128.1	120.0	121.0

(a) The separate city indexes measure price movement within each city individually. They do not compare price levels between cities. *(b)* The index series for years prior to 1985–86 are based on the series previously published on a reference base 1966–67 = 100.0. They have been converted to reference base 1985–86 = 100.0 by linking the old and new series at September 1986.

Price Index of Materials Used in Building Other than House Building

The Price Index of Materials Used in Building Other than House Building was first compiled on a reference base 1966–67 = 100.0, using a weighting pattern derived from estimated materials usage in 1966–67. Monthly index numbers on a 1966–67 = 100.0 reference base are available for the period July 1966 to January 1981. A description of the first series, including its composition and weighting pattern, is given in the publications *Price Index of Materials Used in Building Other than House Building*, January 1969 (6407.0) and *Labour Report* No. 54, 1969.

The current Price Index of Materials Used in Building Other than House Building for the six State capital cities was introduced in February 1981 on reference base 1979–80 = 100.0. The index for Darwin was published for the first time in September 1982 on a reference base 1981–82 = 100.0. The index for Canberra was first published in respect of November 1987 on a reference base of 1986–87 = 100.0.

This index measures changes in prices of selected materials used in the construction of buildings other than houses. Its composition reflects the usage of materials in the construction of buildings (other than houses) commenced in the three years ending June 1977.

Further information concerning the method of compiling the index, including details of its composition and weighting pattern can be obtained from the February 1981, September 1982 and November 1987 issues of the publication *Price Index of Materials Used in Building Other than House Building* (6407.0).

The tables below show annual 'All groups' index numbers for each State capital city and Darwin and index numbers for selected building materials for the weighted average of six State capital cities. Monthly index numbers for selected materials and special combinations of materials are shown in each issue of the monthly price index publication *Price Index of Materials Used in Building Other than House Building* (6407.0).

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING EIGHT CAPITAL CITIES (a)

	Weighted average of six State capital cities	*Sydney*	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Darwin*	*Canberra*
Base year	1979–80 = 100.0							*(b)*	*(c)*
1983–84	147.3	148.1	143.4	151.7	152.6	145.4	145.7	118.3	n.a.
1984–85	155.5	155.5	152.8	159.4	160.8	153.2	153.5	122.0	n.a.
1985–86	167.9	167.4	165.2	169.6	174.9	168.1	167.2	131.1	n.a.
1986–87	180.9	181.0	177.8	179.7	187.9	183.9	177.9	139.6	100.0
1987–88	196.8	197.5	192.6	194.4	204.7	201.5	188.9	149.3	111.5
1988–89	214.9	214.7	211.6	213.7	220.7	221.8	204.7	161.7	122.3

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities. *(b)* 1981–1982 = 100.0. *(c)* 1986–87 = 100.0.

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING INDEX NUMBERS FOR SELECTED BUILDING MATERIALS WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES (Base of each index: Year 1979–80 = 100.0)

	Structural timber	*Clay bricks*	*Ready mixed concrete*	*Galvanised steel decking cladding and sheet products*	*Structural steel*	*Reinforcing steel bar fabric and mesh*
1983–84	144.9	151.6	149.6	145.3	141.4	148.6
1984–85	160.6	162.9	158.6	150.8	147.6	148.2
1985–86	172.2	173.7	162.6	157.1	158.0	156.8
1986–87	178.6	183.0	167.7	166.8	170.9	165.8
1987–88	184.2	193.7	175.6	181.5	186.2	176.2
1988–89	208.2	221.2	193.7	199.6	204.3	193.1

	Aluminium windows	*Conductors (mains cable and circuitry)*	*Lamps and light fittings*	*Non-ferrous pipes*	*Builders' hardware*	*Paint*
1983–84	144.2	150.3	145.1	113.7	154.8	162.2
1984–85	152.7	171.9	151.0	122.1	163.8	177.0
1985–86	162.4	197.0	164.0	134.5	182.2	189.3
1986–87	174.2	216.3	180.4	142.4	200.9	201.9
1987–88	192.1	301.3	193.5	183.3	214.7	208.9
1988–89	210.0	369.7	206.2	209.7	235.6	228.4

Price Indexes of Materials Used in Manufacturing Industries

The Price Index of Materials Used in Manufacturing Industry was first compiled on a reference base 1968–69 = 100.0, using a weighting pattern derived from estimated manufacturing usage in 1971–72. Monthly index numbers on a 1968–69 = 100.0 reference base are available for the period July 1968 to November 1985. A description of the first series, including its composition and weighting pattern, is given in the April 1975 issue of the publication *Price Index of Materials Used in Manufacturing Industry* (6411.0).

The current Price Indexes of Materials Used in Manufacturing Industries were introduced in December 1985 on a reference base 1984–85 = 100.0. Details of their composition and weighting pattern are given in the December 1985 issue of the publication *Price Indexes of Materials Used in Manufacturing Industries* (6411.0). With a few exceptions the items included in the indexes were allocated weights in accordance with the estimated value of manufacturing usage in 1977–78.

These indexes measure changes in prices of materials (including fuels) used by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification 1983 (ASIC). The indexes are on a net 'sector' basis; that is, each relates only to those materials which are used in the defined sector of Australian manufacturing industry and which have been produced by establishments outside that sector. The following sector price indexes are published:

(i) a net index for the Manufacturing Division of ASIC; and

(ii) net indexes for ten sub-divisions and four groups within the Manufacturing Division.

In addition, indexes are published for selected categories of materials, some of which are presented below.

PRICE INDEXES OF MATERIALS USED IN MANUFACTURING INDUSTRIES (a): SELECTED CATEGORIES OF MATERIALS

(Base of each index: Year 1984–85 = 100.0) (b)

	Imported materials				*Home produced materials*				
	Agricultural	*Mining*	*Manufactured*	*Total imported materials*	*Agricultural, forestry and fishing*	*Mining*	*Electricity*	*Total home produced materials*	*All materials*
1983–84	92.8	92.5	91.2	91.8	98.0	95.3	97.1	96.9	95.3
1984–85	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1985–86	117.3	91.5	117.7	111.8	100.6	101.4	102.9	101.2	104.9
1986–87	126.0	68.9	131.7	117.3	109.3	89.3	107.4	99.1	105.4
1987–88	106.5	67.9	136.4	120.0	118.3	96.3	112.3	106.8	111.4
1988–89	95.3	56.7	135.8	116.5	131.0	93.6	118.3	111.3	113.1

(a) The index is on a net basis and relates in concept only to materials that enter Australian manufacturing industry from other sectors of the Australian economy or from overseas. (b) The index series for years prior to 1984–85 are based on the series previously published on reference base 1968–69 = 100.0. They have been converted to reference base 1984–85 = 100.0 by linking the old and new series in the year 1984–85.

Price Indexes Of Materials Used In Coal Mining

The Price Indexes of Materials Used in Coal Mining are compiled on a reference base 1987–88 = 100.0, using a weighting pattern derived from estimated materials usage in the operation of open cut and underground coal mines in the three years ended June 1987.

A description of this series, including its composition and weighting pattern, is given in the publication *Price Indexes of Materials Used in Coal Mining,* November 1988 (6415.0).

Index series are published which measure price movements in materials used in open cut and underground coal mining operations separately. For the purpose of these indexes, coal mining operations encompass the removal of overburden, the extraction, washing and preparation of the coal and its transportation to the rail head. Materials are defined to be those consumable and replacement parts normally used up in these activities. Items of capital equipment are not included within the scope of the index.

The Open Cut and Underground indexes enable comparisons to be drawn between them as to the differences in degree of price movement from period to period. They do not measure differences in price levels between the two types of mining.

PRICE INDEXES OF MATERIALS USED IN COAL MINING
(Base of each index: Year 1987–88 = 100.0)

	Open cut	*Underground*
1987–88	100.0	100.0
1988–89	99.9	106.8

Price Indexes of Articles Produced by Manufacturing Industry

These indexes measure changes in the prices of articles produced by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC). Indexes are on a 'net basis', i.e. they relate in concept only to those articles which are produced in defined sectors of Australian manufacturing industry for sale or transfer to other sectors or for export or for use as capital equipment. Articles which are sold or transferred to other establishments within the sector for further processing as materials, components, fuels, etc. are excluded.

The following sector price indexes are published:

(i) a net index for the Manufacturing Division of ASIC (known as the *All Manufacturing Industry Index*); and

(ii) a net index for each of the twelve sub-divisions within the Manufacturing Division.

The reference base of the indexes is the year 1968–69 = 100.0. Their composition and weighting reflect estimated net sector production in the year 1971–72.

The items included in the indexes are combined for publication purposes using the structure of ASIC.

Further information concerning the method of compiling monthly index numbers for each index, including details of their composition and weighting, is shown in the June 1976 issue of the publication *Price Indexes of Articles Produced by Manufacturing Industry* (6412.0). Further information about the indexes is also shown in *Year Book* No. 62.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)
(Base of each index: Year 1968–69 = 100.0)

		Net subdivision indexes (b)					
Year	*All Manufacturing Industry Index (c)*	*Food, beverages and tobacco (21–22)*	*Textiles (23)*	*Clothing and footwear (24)*	*Wood, wood products and furniture (25)*	*Paper, paper products and printing (26)*	*Chemical, petroleum and coal products (27)*
1983–84	382.8	355.5	305.8	333.2	455.4	413.6	456.8
1984–85	404.8	377.0	322.6	352.1	494.3	442.2	480.8
1985–86	430.3	399.1	348.2	376.7	530.4	472.4	499.9
1986–87	458.5	428.9	383.5	407.2	569.7	513.4	467.9
1987–88	492.1	454.5	436.6	434.3	609.6	549.3	496.5
1988–89	526.0	486.5	461.5	467.6	667.8	573.1	495.9

Year	*Glass, clay and other non-metallic mineral products (28)*	*Basic metal products (29)*	*Fabricated metal products (31)*	*Transport equipment (32)*	*Other industrial machinery and equipment and household appliances (33)*	*Miscellaneous manufacturing products (34)*
1983–84	404.0	365.5	480.1	358.9	372.6	342.1
1984–85	429.2	381.0	505.3	378.7	390.2	361.4
1985–86	449.8	396.4	534.4	417.5	417.6	388.1
1986–87	473.7	422.5	566.9	479.9	449.6	424.2
1987–88	504.5	471.9	597.8	528.0	484.5	466.2
1988–89	548.1	521.2	646.2	562.3	517.3	497.6

(a) For a full description of Division C, 'Manufacturing' and the subdivisions within the Manufacturing Division, *see Australian Standard Industrial Classification (ASIC), Preliminary Edition*, 1969. (b) These indexes are on a net subdivision basis; the index for each subdivision relates in concept to articles which are produced in that subdivision for sale or transfer outside the subdivision. (c) This index is on a net division basis and relates in concept only to articles which are produced in the Manufacturing Division of ASIC for sale or transfer outside the Division.

FOREIGN TRADE PRICE INDEXES

Historical Perspective

Export Price Index

An index of export prices has been published by the ABS since 1901. The first index was compiled annually from 1901 to 1916–17 as a current weighted unit value index.

The method of calculation was changed in 1918 to incorporate fixed weights. Weights for all principal exports were calculated based on the average quantities of exports for the period January 1897 to June 1916. These weights were applied to the average unit values of each export in successive years, and a weighted average index of 'price' movements was derived. This index was published for the years 1897 to 1929–30.

An index of export prices was not published again until 1937 when two new series of monthly export price indexes were published, compiled back to 1928. One index used fixed weights and the other used changing weights. The most important methodological change introduced with these indexes was the use of actual export prices in place of unit values. The indexes were compiled until 1962.

The next index was introduced in August 1962 with index numbers compiled back to July 1959. This was a fixed weights index with reference base 1959–60 = 100.0. The weights were based on the average annual value of exports during the five years 1956–57 to 1960–61. By 1969–70 there had been a substantial shift in the relative importance of commodities exported and from July 1969 a new interim series was linked to this index, still with reference base 1959–60 = 100.0, but using weights based on the annual value of exports in 1969–70. Four new commodities—iron ore, bauxite, alumina and mineral sands were included. The interim index was published until June 1979 when it was replaced by the current Export Price Index.

Import Price Index

The first issue of the Import Price Index produced by the ABS was released in May 1983 with index numbers compiled from September quarter 1981 onwards, on a reference base 1981–82 = 100.0. This index replaced an import price index previously published by the Reserve Bank of Australia on a reference base 1966–67 = 100.0. The Reserve Bank's import price index was published from 1928 until September 1982.

A table giving a broad indication of long term price changes, drawing on the foreign trade price indexes available, is given below.

FOREIGN TRADE PRICE INDEXES
(Reference base: Year 1968–69 = 100)

Year	*Export Price Index (All Groups)*	*Import Price Index (All Groups)*	*Year*	*Export Price Index (All Groups)*	*Import Price Index (All Groups)*
1901	15	..	1970–71	99	108
1911	17	..	1971–72	102	114
1921–22	25	..	1972–73	131	113
1931–32	18	22	1973–74	157	131
1936–37	29	21	1974–75	177	189
1941–42	27	35	1975–76	193	214
1946–47	53	51	1976–77	216	246
1951–52	123	92	1977–78	227	278
1956–57	115	91	1978–79	256	307
1960–61	93	95	1979–80	309	403
1961–62	94	94	1980–81	328	450
1962–63	99	94	1981–82	332	458
1963–64	112	96	1982–83	360	506
1964–65	103	97	1983–84	369	524
1965–66	105	99	1984–85	396	580
1966–67	103	100	1985–86	417	659
1967–68	98	99	1986–87	431	731
1968–69	100	100	1987–88	469	742
1969–70	101	103	1988–89	501	p694

Source: The sources used for the Import Price Index are the *Reserve Bank of Australia Bulletin* up to and including 1981–82, and the ABS *Import Price Index* (6414.0) thereafter.

Current indexes

The ABS compiles price indexes for merchandise imported into and exported from Australia. The Export Price Index is compiled and published monthly while the Import Price Index is compiled and published quarterly. Both indexes are calculated using fixed weights. Prices are collected from representative importers or exporters of the goods included in the indexes. Average monthly prices are used to compile the Export Price Index and average quarterly prices are used to compile the Import Price Index. Published index numbers for financial years are simple averages of the relevant monthly or quarterly index numbers. Annual index numbers for these indexes are shown below.

Import Price Index

The Import Price Index measures changes in prices of 'imports of merchandise' into Australia. The index numbers for each quarter relate to prices of imports landed in Australia during the quarter.

The commodities directly represented in the index were selected on the basis of their import values and were allocated weights in accordance with the average value of imports for each commodity over the three years ended June 1981.

The selected commodities are combined for publication purposes into broad index groups using three different classifications:

(i) *Australian Import Commodity Classification (AICC) 1980–81* (1204.0)

(ii) *Australian Standard Industrial Classification (ASIC) 1978* (1201.0)

(iii) *United Nations Classification by Broad Economic Categories (BEC) 1976*

In addition, BEC categories have been rearranged to form the broader end use classes: Capital goods, Intermediate goods and Consumption goods. Index numbers based on AICC and BEC are presented below.

Further information concerning the method of compiling the index, including details of its composition and weighting pattern, can be obtained from the December quarter 1982 issue of the publication *Import Price Index* (6414.0). More detailed index numbers are shown quarterly in this publication.

IMPORT PRICE INDEX: INDEX NUMBERS BASED ON THE AUSTRALIAN IMPORT COMMODITY CLASSIFICATION (AICC)

(Base of each index: Year 1981–82 = 100.0)

AICC Section		*1986–87*	*1987–88*	*1988–89p*
(0)	Food and live animals chiefly for food	178.8	162.4	149.8
(1)	Beverages and tobacco	189.4	192.2	183.0
(2)	Crude materials, inedible, except fuels	148.0	153.4	161.7
(3)	Mineral fuels, lubricants and related materials	69.3	75.1	60.3
(4)	Animal and vegetable oils, fats and waxes	99.8	105.4	102.5
(5)	Chemicals and related products n.e.s.	145.6	153.0	152.1
(6)	Manufactured goods classified chiefly by material	169.4	173.4	167.9
(7)	Machinery and transport equipment	191.4	191.9	177.0
(8&9 part)	Miscellaneous manufactured articles and non-monetary gold	177.8	178.7	167.8
All groups		**159.6**	**162.0**	**151.6**

IMPORT PRICE INDEX: INDEX NUMBERS FOR BROAD ECONOMIC CATEGORIES (BEC) AND END USE CLASSES

(Base of each index: Year 1981–82 = 100.0)

	1986–87	*1987–88*	*1988–89p*
Broad Economic Categories			
Food and beverages	172.3	160.3	149.0
Industrial supplies n.e.s.	157.6	163.3	161.6
Fuels and lubricants	69.3	75.1	60.3
Capital goods (except transport equipment) and parts and accessories thereof	182.3	181.5	166.2
Transport equipment and parts and accessories thereof	215.2	218.4	205.1
Consumer goods n.e.s.	171.5	171.8	161.6
End Use Classes			
Capital goods	187.7	187.7	174.6
Intermediate goods	139.8	143.2	134.7
Consumption goods	180.7	182.2	170.4

Export Price Index

The current Export Price Index was introduced in July 1979. It relates to 'all exports of merchandise' from Australia. The index numbers for each month relate to prices of those exports of merchandise that are physically shipped from Australia during that month.

The reference base of the index is the year 1974–75 = 100. The commodities directly represented in the index were selected on the basis of their export values and were allocated weights in accordance with the average value of exports for each commodity over the three years ended June 1977.

The selected commodities are combined for publication purposes into broad index groups using two different classifications:

(i) *Australian Export Commodity Classification (AECC) 1978–79* (1203.0)

(ii) *Australian Standard Industrial Classification (ASIC) 1978* (1201.0)

Further information concerning the method of compiling the index, including details of its composition and weighting pattern, can be obtained from the July 1979 issue of *Export Price Index* (6405.0). More detailed index numbers are shown monthly in this publication.

EXPORT PRICE INDEX: INDEX NUMBERS BASED ON AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC)
(Base of each index: Year 1974–75 = 100)

		AECC Sections				
Year	*All groups*	*Food and live animals (0)*	*Crude materials inedible (except fuels) (2)*	*Mineral fuels and lubricants (3)*	*Animal and vegetable oils and fats (4)*	*Chemicals and other manufactured exports (5, 6, 7 and 8)*
1983–84	208	163	242	269	168	203
1984–85	223	171	264	288	211	216
1985–86	235	180	277	308	183	229
1986–87	243	185	296	280	160	249
1987–88	265	186	357	244	176	278
1988–89	283	206	383	228	173	301

EXPORT PRICE INDEX: INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)
(Base of each index: Year 1974–75 = 100)

	ASIC Divisions		
Year	*Agriculture, forestry, fishing and hunting (A)*	*Mining (B)*	*Manufacturing (C)*
1983–84	169	244	212
1984–85	182	265	226
1985–86	184	290	237
1986–87	182	298	251
1987–88	240	267	277
1988–89	266	266	298

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Price Index of Materials Used in Building Other Than House Building (6407.0)
Price Index of Materials Used in House Building (6408.0)
Price Index of Copper Materials (6410.0)
Price Indexes of Materials Used in Manufacturing Industries (6411.0)
Price Indexes of Articles Produced by Manufacturing Industry (6412.0)
Import Price Index (6414.0)
House Price Indexes: Eight Capital Cities (6416.0)

20

HOUSING AND CONSTRUCTION

HOUSING

To own one's own home has long been the ultimate goal of most Australians.

While home ownership has obvious benefits for the owner, it is also beneficial to the government. Governments see an adequately housed population as being more politically and economically stable, healthy and productive. Additionally, a healthy housing construction industry provides substantial employment both within the industry and in associated sectors of the economy—notably in banking, the real estate industry and manufacturing. It is no accident that Australia has the highest rate of private home ownership per head of population in the world. This has come about as a result of a variety of government initiatives and policies since Federation.

The need for housing and construction statistics has developed with these initiatives to the point where Australia's statistics are quite comprehensive. Of course, user requirements change with government policy changes, and more and different data will always need to be developed.

The principal data are discussed below.

Census Dwellings

At each Census of Population and Housing, in addition to questions relating to personal particulars, there have been a number of questions relating to dwellings. For the 1986 Census, dwellings are classified into basic groups. An *occupied private dwelling* is defined as any habitation occupied by a household, that is, a group of people living together as a domestic unit or a person living alone, and can comprise the whole or only part of a structure. An *unoccupied private dwelling* is any habitable structure built specifically for private living purposes which is unoccupied at the time of the census. *Occupied caravans etc. in caravan parks* are treated as separated households, occupied boats in marinas are included in this dwellings classification. *Non-private dwellings* are defined as dwellings with accommodation which is not included in the previous classifications. These dwellings are classified according to their function and include schools, hotels, hospitals, gaols, nursing homes and other communal dwellings.

Extensive information on dwellings obtained from censuses is available in detailed tables issued for each individual census. 1986 Census publications are listed in the ABS *Catalogue of Publications and Products* (1101.0). The most relevant series of publications from the 1986 Census is *Census 86—Summary Characteristics of Persons and Dwellings* (2479.0–2487.0). More detailed dwellings information is available on microfiche. Tables are listed in the *Catalogue of 1986 Census Tables* (2175.0).

DWELLINGS, BY STATE: CENSUS YEARS

	Census 30 June 1981		*Census 30 June 1986*		
State or Territory	*Occupied(a)*	*Unoccupied*	*Occupied(a)(b)*	*Caravans,etc.(c)*	*Unoccupied*
New South Wales	1,669,594	153,251	1,817,392	21,916	174,467
Victoria	1,243,451	124,522	1,351,118	9,475	143,264
Queensland	703,964	83,366	838,122	27,310	94,714
South Australia	433,841	42,407	474,456	3,162	48,546
Western Australia	405,997	42,100	458,762	10,749	53,851
Tasmania	136,269	17,765	149,484	658	19,470
Northern Territory	29,563	2,368	39,779	3,456	3,639
Australian Capital Territory	68,740	3,963	79,363	368	5,588
Australia	**4,691,419**	**469,742**	**5,208,476**	**77,094**	**543,539**

(a) Includes non-private dwellings. *(b)* Excludes caravans, etc. in caravan parks. *(c)* Includes occupied caravans, tents, cabins, etc., in caravan parks and occupied boats in marinas.

1988 Housing Survey

In the period February to May 1988, a housing survey was conducted throughout Australia to collect information on a number of distinct topics relating to housing. The topics were:

- dwelling characteristics;
- nature of occupancy, housing costs and financial arrangements;
- moving expectations;
- previous housing arrangements; and
- ownership of other residential properties.

In addition, demographic and other characteristics of the occupants, such as sex, age and marital status were also collected, as was gross income.

The following table provides a summary of the Survey results.

HOUSING COSTS, 1988

	Owners	*Purchasers*	*Government renters*	*Private renters*	*Other renters*
		NUMBER ('000)			
New South Wales	862.5	535.8	104.3	448.2	94.4
Victoria	664.3	475.6	49.4	272.6	66.5
Queensland	394.5	240.5	27.7	239.2	63.9
South Australia	220.3	144.9	56.7	78.7	26.1
Western Australia	206.1	161.0	33.8	96.8	39.1
Tasmania	67.9	46.5	14.6	24.1	6.7
Northern Territory	4.8	13.0	9.4	8.3	16.4
Australian Capital Territory	18.4	39.8	12.9	20.7	6.5
Australia	**2,438.8**	**1,657.1**	**308.9**	**1,188.5**	**319.6**
		MEAN WEEKLY HOUSING COSTS ($)			
New South Wales	15	139	47	100	51
Victoria	15	125	46	85	49
Queensland	13	119	48	76	38
South Australia	11	110	44	76	45
Western Australia	11	112	43	76	44
Tasmania	12	96	44	63	39
Northern Territory	17	131	66	109	47
Australian Capital Territory	14	136	53	105	60
Australia	**14**	**126**	**46**	**88**	**46**

HOUSING COSTS, 1988—*continued*

	Owners	*Purchasers*	*Government renters*	*Private renters*	*Other renters*
COSTS AS PROPORTION OF MEAN WEEKLY INCOME (%)					
New South Wales	3.5	20.3	18.9	23.6	14.3
Victoria	3.4	19.7	19.9	20.3	14.3
Queensland	3.4	20.4	18.3	20.2	8.5
South Australia	2.8	18.7	15.2	19.9	11.9
Western Australia	2.4	18.8	15.8	19.0	9.9
Tasmania	3.1	17.3	19.0	17.6	9.6
Northern Territory	2.9	18.7	14.3	19.7	7.9
Australian Capital Territory	2.3	15.7	16.4	18.3	12.4
Australia	**3.3**	**19.7**	**17.5**	**21.3**	**11.6**

Commonwealth and State Government Housing Assistance

A range of assistance programs has been developed to target assistance to households in the owner-occupied, public housing and private rental housing sectors. The Government provides funds for public housing, supported accommodation services, crises accommodation, mortgage and rent relief, home purchase loans and home purchase subsidies to individuals and families.

The bulk of Commonwealth financial assistance for housing is provided through the First Home Owners Scheme (FHOS) and the Commonwealth–State Housing Agreement (CSHA).

First Home Owners Scheme

The First Home Owners Scheme was introduced on 1 October 1983. Applications for assistance under the *First Home Owners Act 1983* may be made by persons who contract to buy or build or who commence constructing their first home in Australia on or after 1 October 1983. There is no restriction on the marital status or age of the applicant. The home must be intended as the applicants' principal place of residence. At least one applicant must be an Australian citizen or must have the right to reside here permanently. Applicants cannot have owned a home in Australia previously, received assistance under the First Home Owners Scheme, or a grant under the Home Savings Grant Scheme or Home Deposit Assistance Scheme.

The income limits for a home acquired after 31 March 1987 are shown below.

INCOME LIMITS
($)

	Lower	*Upper*
Sole or joint applicants with two or more dependent children	26,000	34,000
Sole or joint applicants with one dependent child	25,000	33,000
Joint applicants without dependent children	23,000	31,000
Sole applicants without dependent children	11,500	15,500

The amount of assistance payable relates directly to the amount of taxable income of all persons involved in the application. The income to be tested is, generally, the taxable income for the year before home acquisition. In certain circumstances income for the current financial year may be tested. New arrivals will be tested against income in the first full year as a taxpayer.

MAXIMUM ASSISTANCE AVAILABLE UNDER DIFFERENT OPTIONS FOR HOMES ACQUIRED SINCE 26 MAY 1988

($)

Benefit options	*No dependants*	*One dependant*	*Two or more dependants*
Option 1—			
Subsidy only	3,000	4,500	5,000
Option 2—			
Subsidy	n.a.	3,300	3,300
Lump sum		700	1,200
Option 3—			
Subsidy	n.a.	1,750	1,750
Lump sum		2,000	2,500

The subsidy is paid monthly, generally over five years, into an account with a financial institution. The lump sum is generally paid with the first monthly payment but can be made available earlier if required for deposit assistance or for settlement.

During the five year subsidy period applicants must confirm in writing each year that they continue to own and occupy the home. The subsidy will cease upon the sale of the home, but may recommence if a subsequent home is acquired within 12 months of the sale of the first home.

The following table sets out the operations of the scheme.

FIRST HOME OWNERS SCHEME: OPERATIONS

State	*Number of applications* *Received*	*Approved*	*Amount of benefit approval ($'000)*	*Amount of benefit paid ($'000)*
	1987–88			
New South Wales	15,765	14,928	60,470	62,824
Victoria	13,505	11,679	44,984	52,107
Queensland	10,590	8,912	35,773	39,408
South Australia	5,135	4,575	17,487	19,144
Western Australia	9,140	7,945	31,446	32,972
Tasmania	1,880	1,872	7,179	7,675
Northern Territory	228	195	736	1,093
Australian Capital Territory	1,862	1,639	6,553	6,691
Australia	**58,105**	**51,745**	**204,628**	**221,914**
	1988–89			
New South Wales	11,463	10,238	39,442	52,051
Victoria	10,071	9,014	32,878	43,140
Queensland	7,099	6,443	23,888	30,583
South Australia	4,191	3,707	13,632	16,261
Western Australia	4,989	3,913	14,480	20,909
Tasmania	1,491	1,390	4,807	5,894
Northern Territory	168	180	599	878
Australian Capital Territory*(a)*	1,586	1,450	5,462	6,255
Australia	**41,058**	**36,235**	**135,188**	**175,971**
	1 OCTOBER 1983 TO 30 JUNE 1989			
Australia	**383,030**	**333,631**	**1,442,500**	**1,269,600**

(a) ACT data include a large area of southern New South Wales handled by the FHOS office in Canberra.

1989 Commonwealth–State Housing Agreement—CSHA

At the 1989 Premiers' Conference the Commonwealth offered the States a new CSHA to commence operation on 1 July 1989. The offer is still being considered by the States (including for the first time the ACT). Features of the proposal are outlined below.

The Agreement would run for a 10 year period with triennial reviews. Commonwealth funds would be provided completely as grants and though States would be required to match Commonwealth funds on a dollar for dollar basis, one half of this matching could be met from the value of CSHA home loans. In addition, the grant matching requirement would be phased in over a four year period. Specific purpose programs would continue to be funded by the Commonwealth and, with the exception of the Mortgage and Rent Relief Scheme, no State matching would be required.

Grant funding would increase from $700 million in 1988–89 to $1,010.5 million in 1989–90, an increase of 44 per cent. The level of untied funding would show a similar order of increase—from $530.6 million to $777.2 million. Funds formerly provided under Loan Council Nomination arrangements are re-allocated on a more needs-related basis over the first three years of the Agreement. Funding for specific purpose programs will total $233.1 million in 1989–90 comprising $91 million for Aboriginals, $48.7 million for pensioners, $30.4 million for mortgage and rent relief, $39 million for crisis accommodation and $24 million for the Local Government and Community Housing Program.

The Agreement includes a joint Commonwealth–State planning process to ensure that priorities for all groups such as youth, people with disabilities, Aboriginals and the aged are met under public housing arrangements. Suitable arrangements will be introduced to ensure that there is national consistency in eligibility criteria and rent principles and a strengthening of the CSHA's position with respect to the security of tenure of public tenants, increased choice of assistance, and establishment of appeal mechanisms.

Home purchase assistance

The home purchase assistance provisions or the proposal are directed towards ensuring that CSHA funds are used in an effective and efficient way. Funds available for home purchase assistance comprise revolving funds arising from the operation of previous home purchase programs and State funds. The proposal will encourage States to draw on private sector funds and to on-lend to low to moderate income home buyers as such borrowing will not affect the State's Loan Council borrowing limits. Home purchase assistance programs which the States wish to count for CSHA matching purposes are to be approved by the Commonwealth. Eligibility conditions are set by each State, but loans can only be made to those who cannot obtain mortgage finance on the open market, or from other sources. Loan repayments are based on the borrower's income.

Rental housing assistance

The new arrangements proposed by the Commonwealth will require the establishment of a Rental Capital Account into which all Commonwealth and State grant funds must be paid. After deducting interest and principal payments to the Commonwealth and a general allowance (to be used for defined non-capital purposes) all funds must be applied to increasing the housing stock. In addition all income from sales of dwellings from the previous year must be placed in the Account.

States will continue to determine eligibility for rental housing with priority to those in most need. Under the proposal States will be required to charge tenants at least cost or market-related rents, with reduced (or rebated) rents available for those low income tenants unable to pay the full rent. Cost rents (where applied) are to reflect the cost of providing rental housing and under the proposal will include a notional interest charge for grants made from 1989–90 and onward. States will continue to determine their sales policy in relation to rental dwellings but all sales are to be at market value or replacement cost and on the basis of a cash transaction. Home purchase assistance funds can be used to finance the purchase of rental dwellings.

COMMONWEALTH–STATE HOUSING AGREEMENT: OUTCOMES FOR 1987–88

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Rental Housing Assistance—								
Commenced	2,676	1,888	1,774	926	1,406	440	355	9,465
Completed	3,299	2,031	1,095	603	1,634	539	500	9,701
Purchased	181	876	556	297	152	65	25	2,152
Sold	97	38	54	360	241	314	20	1,124
Total stock at 30 June	**111,467**	**56,867**	**31,709**	**32,248**	**60,655**	**13,335**	**9,707**	**315,988**
Households accommodated	10,809	8,686	6,032	6,292	8,432	2,151	3,137	45,539
Home Purchase Assistance								
Loans approved for—								
Construction	513	343	605	617	473	50	8	2,609
Purchase	2,371	1,900	2,965	1,015	1,642	857	271	11,021
Not specified	1,937	—	—	—	391	—	—	2,328
Total	**4,821**	**2,243**	**3,570**	**1,632**	**2,506**	**907**	**279**	**15,958**

COMMONWEALTH–STATE HOUSING AGREEMENT: DISTRIBUTION OF 1989–90 FEDERAL FUNDS (1988–89 FIGURES IN BRACKETS)

($'000)

State	*Untied*	*Rental Assistance for Pensioners*	*Rental Assistance for Aboriginals*	*Mortgage and Rent Relief*
New South Wales	244,874 (179,027)	18,520 (13,869)	17,777 (13,641)	10,646 (9,257)
Victoria	190,776 (135,989)	10,882 (8,794)	3,638 (3,417)	7,961 (6,949)
Queensland	92,592 (79,428)	9,644 (7,382)	25,228 (19,000)	5,142 (4,418)
South Australia	82,060 (52,053)	3,849 (2,819)	8,341 (6,391)	2,630 (2,302)
Western Australia	66,266 (48,502)	4,153 (3,268)	15,862 (12,121)	2,898 (2,471)
Tasmania	44,983 (20,952)	1,179 (845)	696 (696)	836 (742)
Northern Territory	55,701 (14,649)	523 (523)	19,458 (14,734)	291 (261)
Total	**777,250 (530,600)**	**48,750 (37,500)**	**91,000 (70,000)**	**30,404 (26,400)**

State	*Crisis Accommodation Program*	*Local Government and Community Housing Program*	*Total*
New South Wales	13,656 (6,835)	8,404 (5,596)	313,877 (228,225)
Victoria	10,212 (5,131)	6,284 (4,200)	229,753 (164,480)
Queensland	6,598 (3,262)	4,060 (2,671)	143,264 (116,161)
South Australia	3,372 (1,700)	2,075 (1,391)	102,327 (66,656)
Western Australia	3,717 (1,824)	2,288 (1,494)	95,184 (69,680)
Tasmania	1,072 (548)	660 (448)	49,426 (24,231)
Northern Territory	373 (200)	229 (200)	76,576 (30,567)
Total	**39,000 (19,500)**	**24,000 (16,000)**	**1,010,404 (700,000)**

Specific purpose programs

In addition to untied assistance used for the provision of home purchase assistance and general public rental housing, the CSHA provides funds for a number of specific purpose programs:

(a) *Rental Assistance for Pensioners*—provides rental housing assistance to pensioners and beneficiaries including age or invalid pensioners, widows and supporting parents.

(b) *Rental Assistance for Aboriginals*—since 1979–80 the Federal Government has provided separately identified funding to the States for rental housing assistance for Aboriginals through the CSHA. Between 1980 and 30 June 1988, 6,066 new dwellings have been provided in the six States and the Northern Territory under this program. This includes the upgrading of existing dwellings.

(c) *Mortgage and Rent Relief Scheme*—provides assistance to households experiencing severe short term hardship in meeting private mortgage or rental payments. Rental assistance can also be used for bond money, relocation costs and housing advisory services.

(d) *Crisis Accommodation Program* (CAP)—provides crisis accommodation dwellings for youth, women and the chronically homeless. It operates in close conjunction with the Supported Accommodation Assistance Program (SAAP) which provides recurrent funding for the delivery of crisis accommodation services.

(e) *Local Government and Community Housing Program*—provides assistance to achieve the following objectives:

- encourage local government bodies and community groups to provide rental housing;
- facilitate greater tenant management of rental housing;
- respond to specific housing needs previously overlooked;
- attract local government and non-government funds and other resources into the program;
- involve local government and community groups in the identification of housing needs and the formulation of local housing policies.

Housing Loans Insurance Corporation

The Housing Loans Insurance Corporation is a government business enterprise which insures lenders (such as building societies, banks, etc.) against loss on housing and building loans.

From November 1965, when the Corporation commenced operations, until the end of June 1989, 910,000 loans to the value of $30,085 million had been insured.

Commonwealth–State Housing Agreement (Service Personnel)—CSHA(SP)

The disposal of surplus service personnel dwellings is the responsibility of the Minister for Defence Science and Personnel. The Minister announced on 11 May 1989 that the Commonwealth would renegotiate the CSHA(SP) with the States. New legislation is expected to be passed by Parliament early in 1990.

These new arrangements will enable a large number of ex CSHA(SP) houses to be transferred to public housing stock administered by State housing authorities.

Defence Service Homes (DSH) Scheme

Housing assistance

The DSH Scheme provides housing-related benefits to those who qualify through war or defence service.

Up until 30 June 1989, the Scheme was administered by the Defence Service Homes Corporation. As from 1 July 1989 the Corporation ceased to exist and the Scheme has become a sub-program of the Benefits' Program in the Department of Veterans' Affairs.

On 1 December 1988, the Westpac Banking Corporation bought the mortgages of the former DSH Corporation and took over the lending function, paying $1.38 billion for the mortgage portfolio and a further $100 million for the exclusive right to make DSH-subsidised loans. Until 19 December 1988, the Commonwealth provided housing loans at concessional rates. After that date, the Commonwealth paid an interest subsidy on first mortgage housing loans made to eligible people by Westpac, up to a maximum of $25,000.

The subsidy represents the difference between a fixed concessional rate of 6.85 per cent per annum and the market rate.

The DSH Scheme also provides low-cost houseowner's insurance cover, concessional assistance for essential repairs, and assistance to veteran's widows who are experiencing financial hardship in paying for their rates, repairs, insurance and loan instalments.

Lending component

Since it began in 1919, the DSH Scheme has helped more than 435,000 eligible people to buy, build or complete their homes. Up to 19 December 1988, 3,111 Commonwealth-funded loans were settled by the former DSH Corporation. After that date, applications were for payment of subsidy on loans provided by Westpac.

Subsidy component

The saving in repayment instalments on a subsidised $25,000 loan from Westpac compared with repayments at current market rates is about $185 per month, which is equal to extra borrowing power of about $13,000.

About 128,000 loans were transferred to Westpac. Applications for subsidy are being received at the rate of about 1,100 per month.

Insurance component

The DSH Insurance Scheme is run as a self-funding cooperative with no budget outlay. DSH insurance is available to the owners of homes which are the subject of a DSH interest subsidy. Insurance with the Scheme may be continued after repayment of the loan as long as the insured keeps the home. Premiums are below those generally available elsewhere, and 99 per cent of those eligible to take out DSH insurance do so.

Average sum insured at 30 June 1989 ($)	82,333
Total sums insured at 30 June 1989 ($ million)	14,412
Number of homes insured at 30 June 1989	175,044
Claims paid 1988–89—Number	22,709
—Amount ($)	8,785,704
Premium income ($)	10,457,905

State housing authorities

The following paragraphs describe briefly the organisation of the various State housing authorities and their activities in the fields of home construction and provision of homes on a rental basis.

New South Wales—Department of Housing

The Department came into being with the enactment of the *Housing Act 1985* on 1 January 1986, which enabled the amalgamation of the Housing and Land Commissions of New South Wales and various housing related divisions of other departments. The Department's objective is the provision of services and activities, which will enable all sections of the community with housing needs to have secure, appropriate and affordable housing.

Advances from the Commonwealth Government have provided most of the Department's capital funds and by 30 June 1988 the balance outstanding was $1,084,027,000. Other net funds of the Department at 30 June 1988 comprised: repayable advances from the State, $650,671,000; public loans raised by the Department, $373,204,000; grants from the Commonwealth Government, $1,206,678,000; grants from the State, $25,884,000; and accumulated surplus, $129,387,000. In addition, the Department owed $138,116,000 to creditors, mainly for purchase of land and work-in-progress. These funds were represented by fixed assets, $3,584,150,000 (including $63,172,000 owed by purchasers of homes); and current assets, $138,866,000. In 1987–88, the Department's income was $580,238,000 (including rent, $298,648,000 and interest, $4,341,000); expenditure was $366,328,000 (interest, $100,256,000).

The permanent dwellings provided by the Department have been erected under the Commonwealth–State Housing Agreements or from State loans and grants. In 1987–88, 4,018 dwellings were purchased or completed for the Department.

1987–88 was the year of consolidation for the Department's services assisting home buyers, with the establishment of the Rental Property Trust which allowed the Department to direct private investors' funds to the development of more rental accommodation in the private sector, and the introduction of four major home finance programs aimed at providing home finance to a broader sector of the community.

Ready to Buy Program
During 1987–88 the Department's tenants were offered an opportunity to purchase their own home or a home of their choice in the public sector. Tenants buying through this program are eligible for a loan through the Department's Affordable Home Loan Program and special concessions, such as exemption from stamp duty. $101.8 million was lent under the Affordable Program to 1,937 home buyers during 1987–88.

Affordable Home Loan Program
Low start loans are provided to low income earners to purchase their own homes on low deposit. Repayments are set at 27 per cent of income and increase by 6 per cent per annum. Payments can be varied if income declines through unexpected circumstances. The average income of these borrowers during the year was $17,000 and the average loan was $53,000. The average value of property purchased was $64,000.

Premier Low Start Loans
Premier Low Start Loans are aimed at moderate income earners unable to obtain sufficient finance from traditional lenders in the private sector. They are fixed interest loans which increase borrowing capacity to 50 per cent. Repayments are set at 27 per cent of income and increase 6 per cent per annum until the loan is paid off. During 1987–88 $151.8 million was lent through this program, allowing 2,884 families to purchase their homes.

Mortgage Relief Scheme
This Scheme provides short term assistance in the form of an interest free loan to home buyers who, due to an unforeseen change in circumstances, are unable to meet their mortgage repayments. Assistance is provided to families with a gross income of less than $27,600 per annum and whose total mortgage commitments do not exceed $71,250. During the year 1987–88 541 applications were approved for assistance totalling $2.9 million.

Victoria—Ministry of Housing and Construction

The Ministry's key objectives are:

- to facilitate the continuing access of all Victorians to affordable, adequate and appropriate housing;
- to deliver housing assistance programs in an effective, efficient and equitable manner;
- as the major design and construction authority for Government, to provide policy advice and architectural, engineering, design and supervision services to agencies in relation to their building programs; and
- to maintain a direct construction capability and provide construction policy advice to Government.

Thus, the Ministry of Housing and Construction is not only involved in the provision of public rental accommodation, but also in the provision of assistance to private tenants as well as potential homeowners. The Ministry also cooperates with community groups to provide emergency housing, and programs to assist the homeless. Since the merger with the Public Works Department in 1988–89, the Ministry of Housing and Construction also provides consultative services to Government as well as construction agencies in relation to their building programs.

During the 1988–89 financial year, a total of 2,343 units were constructed or purchased. The funding for these units was provided under the Commonwealth–State Housing Agreement, State funds, as well as Ministry funds. The Ministry's public rental stock was 59,300 as at 30 June 1989, of which 33,000 (or 56 per cent) was located in the metropolitan area. The number of tenants on reduced rents (rebates) totalled 45,983 representing 78 per cent of the State total.

The Ministry also provides assistance to households in the private rental sector, under the Bond and Relocation scheme. This scheme provides funds to individuals or households for security deposits (bonds) and removal expenses. Individual single applicants are eligible for a maximum loan of $400 whilst families or groups may receive up to $600. During the 1988–89 financial year, 6,769 households received assistance under this scheme averaging at $394 per household.

Queensland—Queensland Housing Commission

During 1988–89 the Commission provided 6,447 dwelling units, bringing the total number under all schemes since the revival of housing construction in 1944–45 to 100,735. Of this number, 65,210 houses, or 64.7 per cent, were for home ownership, and 35,525, or 35.3 per cent, were for rental.

In the field of rental housing, the Commission administers, and acts as the constructing authority under, the Commonwealth–State Housing Agreements and States Grants (Housing) legislation. Operating under the provisions of the *State Housing Act 1945–1986*, the Commission, through its scheme of mortgage finance, makes advances for the construction of dwellings to eligible persons who own a suitable building site or to purchase a house and land package. In 1988–89 there were 4,144 dwellings completed through mortgage finance, making a total of 63,355 since the inception of the Commonwealth–State Housing Agreements in 1944–45. The Commission also has power to make advances, secured by mortgage, to firms for housing of employees. The Commission has power to sell houses under contract of sale conditions. Contract of sale agreements were made to purchase 47 of the Commission's houses during 1988–89.

South Australia—South Australian Housing Trust

The primary role of the Trust is to provide housing for those in need, and within their capacity to pay, and to do so in ways which contribute as far as possible to the social well-being and economic development of the State. The Trust aims to provide housing which is appropriate for the householders' needs, is of an acceptable and modern standard and is integrated within the surrounding environment.

The Trust also provides assistance to tenants renting privately through:

- the administration of the Rent Relief Scheme;
- its management responsibility for the Emergency Housing Office;
- exercising its responsibilities under the Housing Improvements Act.

It also assists home owners in financial crisis through the Mortgage Relief Scheme.

The Trust has a separate responsibility to government to act as the State's industrial property authority, to provide industrial premises for approved additions to or extensions of industrial facilities within the State.

A total of 112,107 dwellings have been built, purchased or leased by the Trust since 1936.

Western Australia—State Housing Commission of Western Australia

The State Housing Commission, trading as Homeswest, constructs a variety of dwelling types for its rental and purchase programs. In addition, it constructs housing for other government departments and constructs and maintains houses for the Government Employees' Housing Authority, the Aboriginal Housing Board and community groups.

Homeswest is a major land developer in Western Australia and has the role of providing reasonably priced land to the first home buyer. As part of its development role Homeswest is promoting better use of land, e.g. through flexible lot sizes and consolidation of underutilised urban sites. It also enters into joint ventures with the private sector in land development, finance and housing construction.

At 30 June 1989, the Commission had provided under all schemes since 30 June 1944 a total of 81,906 units of accommodation throughout the State (including 12,046 units completed under the *Defence Services Homes Act 1918*). During the twelve months ended 30 June 1989, 1,503 units of accommodation were provided: 1,065 in the metropolitan area, 214 in country areas and 224 north of the 26th parallel.

Building societies are a major source of housing finance in Western Australia. At 30 June 1989, it was estimated that the assets of permanent and terminating societies were about $2 billion. Currently there are 6 permanent building societies (4 active and 2 inactive) and 116 terminating building societies operating.

Tasmania—Housing Tasmania

Housing Tasmania is responsible for administering the portion of the *Homes Act 1935* relating to the acquisition and development of land for housing purposes, and the erection of homes for rental and sale to those deemed in need of assistance.

There were 416 dwellings completed during 1988–89. The total number of dwellings constructed to 30 June 1989 was 24,753 of which 9,412 have either been sold or demolished.

There were 1,637 properties purchased, making a total dwelling stock of 16,978. Of these 14,463 are detached or semi-detached, 2,063 are elderly persons' units, 424 are multi-unit flats, and 28 are movable units.

Dwellings are allotted on a rental or purchase basis. Rental is now assessed at a proportion of household income. Tenants are able to buy their home if they wish.

Housing Schemes in Australian Territories

Northern Territory

The Northern Territory Housing Commission was established in 1959 and currently operates under authority of the *Housing Act 1982*. For administration purposes only, the Commission was amalgamated with other bodies to form the Department of Lands and Housing on 19 March 1987. However, the Commission still retains its autonomy under a single Commissioner.

Australian Capital Territory

The ACT Housing Trust provides houses, flats and aged persons' units for rental to persons on low incomes who live or are employed in the Australian Capital Territory. At 30 June 1989, the ACT Housing Trust controlled 7,801 houses and 4,175 flats (including aged persons' units) for rental purposes. Public rental houses are currently not available for purchase by tenants, but this policy is under review.

Summary of rental activities of government authorities

GOVERNMENT HOUSING AUTHORITIES: REVENUE FROM RENTALS
($'000)

Year	*NSW*	*Vic.(a)*	*Qld*	*SA*	*WA(b)*	*Tas.*	*NT(b)*	*ACT*	*Aust.*
1986–87	258,200	117,958	r79,304	117,788	53,920	40,776	30,074	38,548	r736,568
1987–88	298,648	135,744	r87,653	140,219	r66,217	49,629	33,068	31,475	r842,653
1988–89	331,292	142,170	r97,874	161,910	71,217	44,536	33,779	34,582	r917,360

(a) Prior to 1983–84 figures relate to Housing Commission, prior to 1988–89 figures relate to Ministry of Housing and thereafter the Ministry of Housing and Construction. (b) Figures relate to Housing Commission only.

GOVERNMENT HOUSING AUTHORITIES: NUMBER OF TENANTS PAYING RENT

Year	*NSW*	*Vic.(a)*	*Qld*	*SA(b)*	*WA(c)*	*Tas.(d)*	*NT(d)*	*ACT(d)*	*Aust.*
1986–87	133,826	57,300	31,628	58,884	32,270	12,911	8,830	11,028	346,677
1987–88	109,958	60,300	r33,327	60,655	32,912	13,305	9,276	11,326	r331,059
1988–89	112,518	58,846	35,525	62,339	35,525	13,292	9,400	11,380	338,825

(a) Prior to 1983–84 figures relate to Housing Commission, prior to 1988–89 figures relate to Ministry of Housing and thereafter the Ministry of Housing and Construction. *(b)* Figures relate to dwelling stock, not tenants. *(c)* Figures relate to Housing Commission only. *(d)* Number of occupied dwellings at 30 June.

Advances to Home Purchasers

Many prospective home purchasers wish to borrow for the purpose of constructing or purchasing their own homes. Usually the loan is covered by way of mortgage of the home to be constructed or bought. Such loans are provided from a number of private sources and from agencies owned or guarantied by the Commonwealth or State Governments. The information in this section concerns the direct loans made to home purchasers by the more important institutional lenders. Loans to institutions which in turn lend moneys to home purchasers and loans to contract builders, etc., are excluded as far as possible. The loans may be for the construction of new dwellings, the purchase of existing dwellings, for additions, renovations, etc., as first or subsequent mortgages, overdrafts and so on. While figures of all loans to home purchasers are not available, the institutions mentioned account for a significant proportion of total loans. Details of the terms and conditions of lending are given, together with available information on the number and value of loans made.

State and Territory authorities and agencies

New South Wales—State Bank of New South Wales

Stamp Duty Deferred Payment Scheme

In 1976 the State Government introduced a scheme by which first home buyers may be eligible for a deferment of the amount of stamp duty payable on their first home. The Stamp Duties Office determines, on behalf of the Treasury, the eligibility of applicants and properties and, if acceptable, approves of an advance being made for payment of stamp duty in accordance with the scheme. Arrangements are handled by the New South Wales Office of State Revenue and repayments are made through the State Bank. Applicants repay the advance over a period of five years by equal annual instalments. The advances are free of interest provided instalments are paid by the due date. To 30 June 1988, 231,159 applicants had taken advantage of the Deferred Payment Scheme to the extent of $202.6 million. Balances outstanding as at 30 June 1988 totalled $68.7 million.

State Second Mortgage Loan Scheme

On 1 July 1981 the New South Wales Government introduced the State Second Mortgage Loan Scheme to provide second mortgages to assist eligible low to moderate income earning families to acquire their home. The interest rate charged is 12 per cent per annum or the notional rate payable on the first mortgage, whichever is the higher, and remains fixed for the term of the loan. The maximum loan is $15,000 and loans are payable over 10 years. The scheme is financed from funds made available by various government instrumentalities and is administered by the State Bank of New South Wales. During the 1987–88 financial year 23 second mortgage loans were made, totalling $134,224.

State Bank of New South Wales—other loans

The State Bank of New South Wales provides assistance to individuals for the erection or purchase of homes and for other approved purposes associated with homes. Advances are based on the bank's official valuation of the dwelling. The rate of interest on new long term loans for housing purposes as at July 1989 was 17.0 per cent per annum. In July 1989, a fixed-rate loan was introduced. The interest rate on this loan varies according to market conditions at the time the Bank raises the underlying funds, and in July 1989 was 15.5 per cent per annum.

Victoria—Ministry of Housing and Construction

Home purchase loans granted during the 1988–89 financial year totalled 4,462. Of these, 355 were provided by the cooperative housing societies. These loans were provided through numerous schemes: Capital Indexed Loans (CAPIL)—424 loans; Indexed Repayment Loans (IRL)—436 loans; Home Opportunity Loans Scheme (HOLS)—3,011 loans; and HOLS Priority Loans—236 loans.

HOLS replaces CAPIL as the Ministry of Housing and Construction's standard lending instrument. This scheme is designed to help more Victorians achieve home ownership by utilising a fully indexed mortgage instrument base on a real rate of interest (currently 6.9 per cent). Repayments are set at between 25 per cent and 27 per cent of income.

The IRL joint venture with four major banks has continued with a total of 424 loan approvals in the 1988–89 financial year.

Queensland

Commission loan schemes are available to non-home owners to purchase or construct a home they intend to reside in. The schemes are:

Interest Subsidy Scheme This Scheme assists low income earners by subsidising interest charges and providing an affordable monthly payment at 25 per cent of gross income, adjusted whenever income changes. Most borrowers under this Scheme would not have the capacity to obtain finance from other lenders. The scheme is subject to a means test.

Second Loan Scheme May be available to borrowers eligible for an Interest Subsidy Loan and who are also eligible for the Commonwealth First Home Owners Scheme. This loan assists to bridge the deposit gap, and utilises the First Home Owners Scheme (FHOS) subsidy payout.

Flexible Term Loan This loan is intended as an alternative source of finance for borrowers not eligible for the Interest Subsidy Scheme or for those with sufficient income or savings to not need the protection of an Interest Subsidy Loan. 'Slow' and 'Quick' start options are offered with several term options also available. The scheme is subject to a maximum joint income limit.

South Australia—South Australia Housing Trust

Until August 1989, the Trust administered the Rental Purchase Scheme in conjunction with the State Bank. In 1988–89, a total of 138 Rental Purchase sales took place to give an overall total of 1,245 sales since the scheme's inception in 1983. In September 1989, the State government's *Homestart* scheme superseded the Rental Purchase scheme.

The Homestart loan program is a South Australian Government scheme designed to provide housing finance to people who are not currently home owners. It is aimed at low to moderate income earners. Early mortgage payments do not cover all the interest due. The unpaid interest is added to the outstanding loan balance and paid later as income and payments increase.

Minimum deposit is 5 per cent and up to 95 per cent of house valuation is available. Borrowers are required to contribute a minimum of $1,000, plus pay the various legal and establishment fees. Payments are set at 25 per cent of the initial household income and increase every year in line with the CPI. The maximum term is initially 27 years.

Homestart is available to all South Australians, regardless of income. People do not need to be first home buyers but must be residing in the home they intend to buy and must not own any other residential property. There is no maximum house and land value limit.

In September 1986, the Trust initiated the Home Trust Shared Ownership Scheme whereby tenants can purchase their home in affordable stages commencing with a 25 per cent share.

Western Australia—State Housing Commission of Western Australia

The Commission administers four schemes to assist applicants achieve home ownership. These schemes are known as First Mortgage, Flexible Deposit, Shared Equity and Senior Citizens Loan Schemes. The maximum interest rate is maintained in relationship with the pre-April 1986 Commonwealth Bank interest mortgage rate and the repayment of the loan is on an income geared basis with an applicant not being expected to pay more than 25 per cent of assessed family income in repayments. The maximum repayment period is 30 years.

Under the schemes, the applicants are able to select an established home or build a new home of their choice. The maximum income limits vary with the location. A family with one child can have a maximum weekly income of $435.80 in the metropolitan area, $564.00 in remote areas and $615.00 in the Kimberley region. These limits increase by $22 for each additional child after the first, and $28 for each additional child beyond the third.

Under the First Mortgage, Flexible Deposit and Shared Equity Schemes, the maximum value of house and land in the metropolitan area is $75,000 if buying an established home or if building a new home. In non-metropolitan areas, the maximum value varies from $65,000 in country areas to $103,500 in the Kimberley region. Minimum deposit required is usually 5 per cent of valuation, although with the Flexible Deposit Scheme as little as $500 can be paid as the deposit on a home.

The Shared Equity Scheme was designed to help people on very low incomes into home ownership. Homewest purchases the home on behalf of the applicant and funds the applicant to an equity share of not less than 60 per cent of the home value. Normally 5 per cent of the loan sought is required for the deposit but this can be reduced to as little as $500. All maintenance, insurance and rates are shared in accordance with the applicants' equity share.

Assistance through Terminating Building Societies is available to eligible applicants from the Loans Priority List under first mortgage conditions. Funds are not available for second mortgages. The interest rate on advances is 13.5 per cent and the maximum term is for 30 years. In the metropolitan area, the maximum income limit is $435.80 per week plus an extra $22 per week for each dependent child, and $28 for each additional child beyond the third. The value of house and land cannot exceed $75,000 and a 5 to 10 per cent deposit is required. In other areas around the State, maximum income limits vary between $435.80 in country areas and $615.00 in the Kimberley region and the maximum value of house and land varies from $66,000 in country areas to $103,500 in the Kimberley region.

Tasmanian Development Authority

The Authority is responsible for the administration of funds made under the Home Purchase Assistance section of the *Housing Assistance Act 1984*. The State has also provided State loan funds for lending under the Homes Act.

The primary principle of the Housing Assistance Act is to ensure that every person in Australia has access to adequate and appropriate housing at a price within his or her capacity to pay.

The Authority has a Deferred Interest Subsidy Scheme, whereby low income earners can borrow sufficient amounts to enable them to purchase a reasonable dwelling. The current rate of interest is 13.5 per cent with monthly repayments based on 25 per cent of joint gross monthly income. When the repayment is not sufficient to meet the interest charged on the loan, the balance is deferred and repaid in the later years of the loan. There is no interest charged on the deferred proportion of the loan.

The Authority has a Home Ownership Building Industry Scheme (HOBIS) whereby private builders are requested to tender for the construction of homes throughout the State for low to moderate income earners who could not otherwise afford to purchase a new home.

Total lending to both builders and first home buyers exceeds $45 million since the introduction of HOBIS in 1987 and more than 400 brick veneer homes have been built and sold.

TASMANIAN DEVELOPMENT AUTHORITY, ADVANCES FOR HOUSING (a)

Particulars	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
Advances approved—						
Number	624	537	815	624	704	712
Value ($'000)	18,030	17,437	28,390	24,790	29,423	33,237
Advances outstanding at 30 June ($'000)	83,081	90,338	106,000	114,606	126,263	154,231

(a) Excludes advances to cooperative housing societies.

Northern Territory—Interest Subsidy Scheme

The Northern Territory Interest Subsidy Scheme was introduced on 1 December 1988. The previous loan scheme, the Northern Territory Home Purchase Assistance Scheme closed to new applications on that date.

The Subsidy Scheme provides a non-recoverable subsidy on a private sector loan to people in the $300 to $600 gross weekly earnings bracket.

There are eight levels of subsidy at which participants, depending on income, will commence under the scheme. The initial subsidy will be maintained for three years, at which time it will decrease to the next level, and annually thereafter.

The maximum subsidy is based on a $55,000 loan and will be reduced proportionately on loans of lesser amounts. Eligibility criteria for the scheme are as follows:

- value of house–land package to be $100,000 or less;
- applicants purchasing their first home in the Northern Territory who do not own another dwelling elsewhere in Australia; and
- intend to reside in the dwelling.

Northern Territory—Home Establishment Grant

The Home Establishment Grant of $1,000 is available to all persons buying or building their first home in the Northern Territory. The value of house and land must not exceed $100,000. The purpose of the grant is to assist home buyers defray those expenses incurred in purchasing their homes, for example loan establishment costs, legal fees, stamp duty and so on.

Northern Territory—Sales Scheme

A scheme exists to allow eligible tenants of the Northern Territory Housing Commission to purchase dwellings under the General Public Sales Scheme. Sales are on a cash basis only to approved tenants.

Australian Capital Territory

The Commissioner for Housing operates an income-geared loan scheme to assist people who are generally unable to afford finance in the private market. Loans to a maximum of $70,000 over a maximum term of 30 years are available to purchase or erect dwellings in the Australian Capital Territory. The exact amount of loan granted and term of the loan are determined by the applicant's level of income and assets and the value of the property to be purchased. To qualify for a loan an applicant must:

- be a permanent resident of Australia and have lived or worked in the Australian Capital Territory for at least six months prior to loan approval;
- not have any interest whatsoever in real property located in the Australian Capital Territory or Queanbeyan other than the dwelling or the land upon which it is proposed to erect the dwelling;

- not previously have received government financial assistance in the form of a loan for the purchase or construction of a dwelling in the Australian Capital Territory or Queanbeyan.

Interest rates vary but must mot exceed the Commonwealth Savings Bank new home loans rate. The interest rate for new loans at 30 June 1989 was 13.5 per cent. Instalment repayments are geared to the applicant committing 25 per cent of income to total mortgage payments and instalment subsidies are repaid over the term of the loan or upon discharge. At 30 June 1989, 6,818 properties were under mortgage to the Commissioner for Housing. The Commissioner also administers 5,028 Commonwealth of Australia mortgages.

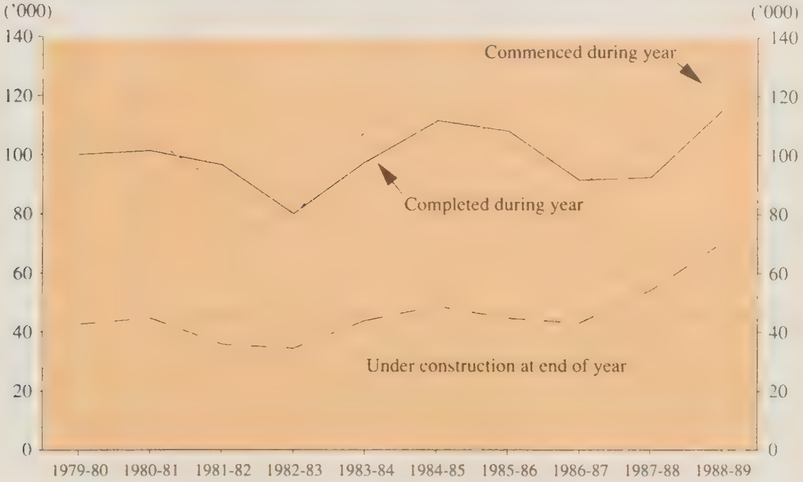
CONSTRUCTION

Building

Building activity is a significant indicator of the level of economic activity. In addition, the level of building activity and the types of buildings being constructed affect the Australian physical and social environment. Building approvals statistics give an indication of the potential future level of investment of private individuals, companies and government agencies in approved building construction. Building activity statistics show the level of actual building construction activity in terms of the level of commencements and completions, building jobs under construction and the value of work done and yet to be done on building jobs.

Number of new houses

NUMBER OF NEW HOUSES, AUSTRALIA



Note: Break in series from 1980-81 and 1981-82. (See explanation on pages 715-16 in Year Book No.71)

The following table provides a summary of the number of new houses approved, commenced, under construction and completed by type of ownership in each State and Territory for the year 1988–89.

NUMBER OF NEW HOUSES, 1988–89
('000)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Private Sector—									
Approved	35.3	35.9	30.6	7.5	19.2	2.7	0.6	1.9	133.6
Commenced	33.8	34.3	29.3	7.1	19.0	2.5	0.5	1.8	128.3
Under construction*(a)*	21.1	19.9	9.5	3.1	11.3	2.1	0.3	0.8	68.1
Completed	29.8	29.6	27.3	6.3	14.1	2.0	0.4	1.7	111.2
Public Sector—									
Approved	0.6	1.1	1.3	0.5	0.7	0.2	0.1	0.1	4.7
Commenced	0.6	0.9	1.1	0.4	0.7	0.2	0.1	0.1	4.1
Under construction*(a)*	0.4	0.5	0.5	0.3	0.4	0.1	0.1	0.1	2.3
Completed	0.6	0.9	0.9	0.4	0.5	0.2	0.5	0.1	4.2
Total—									
Approved	35.8	37.1	31.9	8.0	20.0	2.9	0.7	2.0	138.4
Commenced	34.4	35.2	30.4	7.6	19.7	2.7	0.6	1.9	132.4
Under construction*(a)*	21.5	20.4	10.0	3.4	11.7	2.1	0.4	0.9	70.4
Completed	30.4	30.5	28.2	6.7	14.7	2.3	0.9	1.8	115.4

(a) At end of period.

Number of new houses approved, by material of outer walls

The use of certain materials for outer walls is dictated by such factors as cost, durability, appearance and climatic conditions. Changes in the materials used over time indicate changes in the characteristics of the housing stock.

The following table shows the number of new houses approved in each State and Territory during the year 1988–89, classified according to the material of their outer walls.

NUMBER OF NEW HOUSES APPROVED BY MATERIAL OF OUTER WALLS AS A PROPORTION OF TOTAL STATE, 1988–89
(per cent)

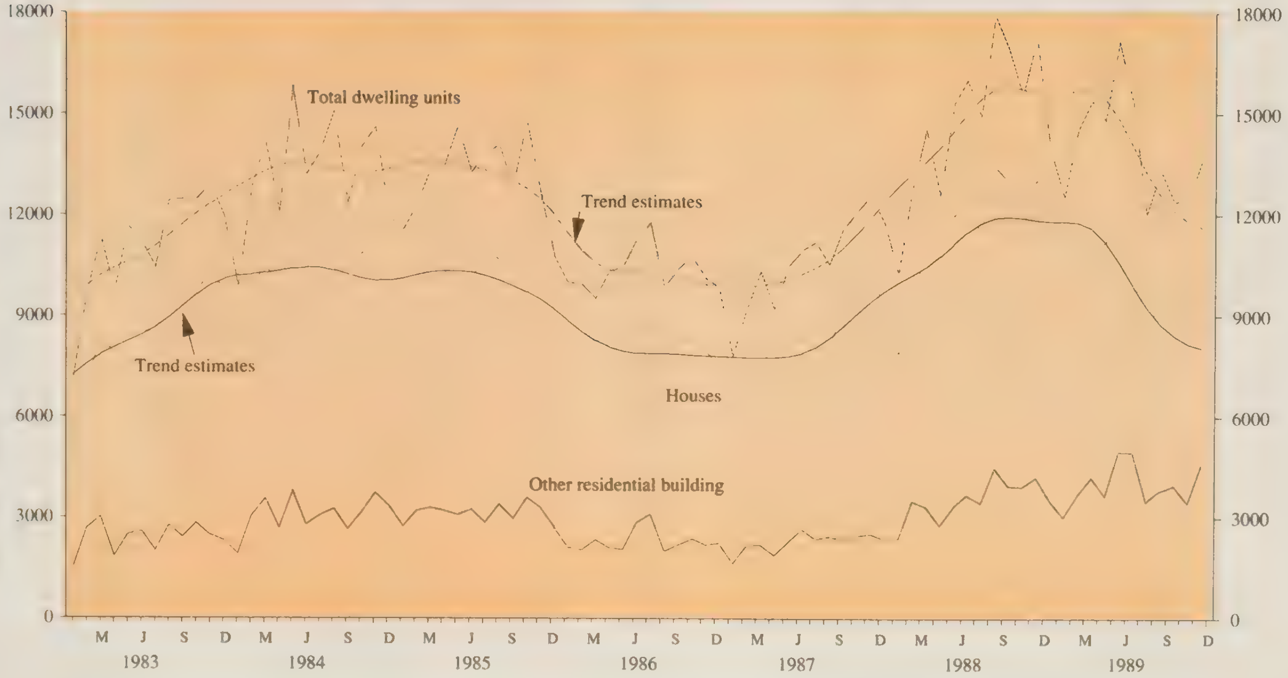
Material of outer wall	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Double brick*(a)*	15.1	1.1	6.8	8.3	86.2	4.5	55.3	1.5	19.1
Brick veneer	71.6	62.9	78.2	68.1	5.0	77.8	3.4	89.4	61.1
Timber	5.9	5.0	7.3	1.0	2.5	12.9	2.4	0.5	5.3
Fibre cement	6.3	2.3	6.0	5.0	5.2	1.9	3.1	0.1	4.7
Other	1.1	1.1	1.7	0.4	1.1	2.9	35.9	0.4	1.4
Not stated	—	27.5	—	17.1	—	—	—	8.0	8.5

(a) Includes houses constructed with outer walls of stone or concrete.

Number of dwelling units in new other residential building

The level of other residential building construction is highly variable and does not follow the regular pattern experienced in house construction. This can be explained partly by the generally larger size of other residential building construction jobs and also by the extent of speculative building of private flats, home units and similar other residential building projects.

NUMBER OF DWELLING UNITS APPROVED IN NEW RESIDENTIAL BUILDINGS AUSTRALIA



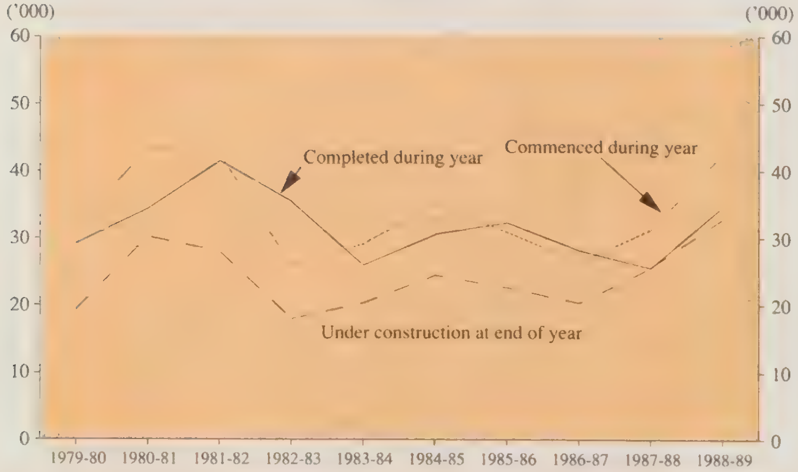
The following table shows the number of new dwelling units in other residential building approved, commenced, under construction and completed by type of ownership in each State and Territory for the year 1988–89.

NUMBER OF DWELLING UNITS IN NEW OTHER RESIDENTIAL BUILDING 1988–89
('000)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Private Sector—									
Approved	14.1	2.7	13.5	2.1	6.8	0.9	0.1	0.7	40.8
Commenced	11.8	2.8	12.0	1.7	6.2	0.8	0.2	0.7	36.3
Under construction*(a)*	11.1	2.1	7.5	1.1	4.0	0.5	0.2	0.5	26.9
Completed	8.2	3.6	9.2	1.3	4.1	0.7	0.2	0.6	27.9
Public Sector—									
Approved	2.2	0.9	1.7	1.1	0.9	0.2	0.2	—	7.1
Commenced	2.0	0.7	1.6	1.0	0.7	0.2	0.1	—	6.2
Under construction*(a)*	3.0	0.6	1.2	0.5	0.5	0.1	0.1	0.1	6.0
Completed	2.6	0.8	1.1	1.1	0.6	0.2	0.1	0.3	6.8
Total—									
Approved	16.3	3.6	15.2	3.2	7.6	1.0	0.4	0.8	48.0
Commenced	13.8	3.5	13.6	2.7	6.9	1.0	0.3	0.7	42.6
Under construction*(a)*	14.1	2.6	8.7	1.6	4.5	0.5	0.3	0.6	32.9
Completed	10.9	4.4	10.3	2.4	4.6	0.9	0.3	0.9	34.7

(a) At end of period.

NUMBER OF DWELLING UNITS IN NEW OTHER RESIDENTIAL BUILDINGS, AUSTRALIA



Value of buildings

The table below shows the value of all buildings approved, commenced, under construction, completed, work done and work yet to be done in Australia for the year 1988–89, according to the class of buildings. The classification of non-residential building by type of building is according to the function a building is intended to serve, as specified on building authorisations.

VALUE BY CLASS OF BUILDING, AUSTRALIA 1988–89
($ million)

Class of building	*Approved*	*Commenced*	*Under construction(a)*	*Completed*	*Work done (b)*	*Work yet to be done (a)*
New residential buildings—						
New houses	10,506.6	10,270.0	6,182.3	8,445.5	9,583.0	3,027.3
New other residential buildings	2,956.3	2,830.3	2,533.9	1,998.2	2,496.7	1,293.7
Total new residential building	*13,462.9*	*13,100.3*	*8,716.2*	*10,443.7*	*12,079.7*	*4,321.0*
Alterations and additions to residential buildings(c)	*1,859.1*	*1,775.4*	*1,063.3*	*1,588.3*	*1,771.2*	*437.6*
Non-residential building—						
Hotels, etc.	1,613.5	1,805.5	2,434.7	981.4	1,341.7	1,394.0
Shops	1,656.9	1,866.0	1,658.7	1,558.3	1,712.4	828.7
Factories	1,590.7	1,529.9	1,134.8	1,706.3	1,459.0	568.2
Offices	4,532.5	5,660.7	8,730.3	3,868.4	4,659.9	4,743.5
Other business premises	1,619.5	1,634.9	1,431.1	1,418.2	1,605.4	626.1
Educational	945.3	970.2	1,015.1	1,019.1	994.2	463.9
Religious	64.9	64.2	65.8	60.9	66.0	31.3
Health	511.4	464.4	1,078.6	555.0	578.7	448.3
Entertainment and recreational	593.9	651.6	732.8	709.0	555.1	371.3
Miscellaneous	405.5	504.7	1,600.7	446.7	620.4	276.5
Total non-residential building(d)	*13,534.1*	*15,152.3*	*19,882.6*	*12,323.2*	*13,592.8*	*9,751.7*
Total building	**28,856.1**	**30,028.0**	**29,662.1**	**24,355.3**	**27,443.8**	**14,510.3**

(a) At end of period. *(b)* During period. *(c)* Valued at $10,000 or more. *(d)* Valued at $30,000 or more.

Constant prices

Estimates of the value of work done at average 1984–85 prices are presented in the following table. Constant price estimates measure changes in value after the direct effects of price changes have been eliminated.

VALUE OF BUILDING WORK DONE AT AVERAGE 1984–85 PRICES, AUSTRALIA
($ million)

	New residential building					
Year	*Houses*	*Other residential buildings*	*Total*	*Alterations and additions to residential buildings*	*Non-residential building*	*Total building*
1983–84	5,013.6	1,231.2	6,244.8	726.5	5,235.9	12,207.2
1984–85	5,665.3	1,400.2	7,065.5	842.7	6,107.6	14,015.8
1985–86	5,552.9	1,307.0	6,859.9	953.4	7,425.5	15,238.8
1986–87	4,808.2	1,116.2	5,924.4	951.9	8,045.3	14,921.6
1987–88	5,313.0	1,170.4	6,483.4	1,071.0	9,223.4	16,777.8
1988–89	6,689.2	1,781.7	8,470.9	1,223.7	9,629.1	19,323.7

Engineering Construction Survey

This section contains estimates of engineering construction activity in Australia by both public and private sector organisations.

These estimates together with results from the ABS Building Activity Survey provide a complete picture of building and construction activity in Australia.

Scope and coverage of the surveys

The ECS aims to measure the value of all engineering construction work undertaken in Australia. The cost of land and the value of building construction is excluded from the survey's scope. Where projects include elements of both building and engineering construction, for example, electricity generation and heavy industrial plant, every effort is taken to exclude the building component from these statistics.

Repair and maintenance activity is excluded from the survey as are the value of any transfers of existing assets, the value of installed machinery and equipment not integral to the structure and the expenses for relocation of utility services.

A contract for the installation of machinery and equipment, which is an integral part of a construction project, is included in the statistics even though, in some cases, the activity in installing such machinery and equipment is classified to the manufacturing industry in the *Australian Standard Industrial Classification,* Volume 1 (1201.0).

The following tables show the value of engineering construction (ECS) activity by the private sector for sector of ownership and by the public sector for the year 1988–89.

VALUE OF ENGINEERING CONSTRUCTION ACTIVITY BY THE PRIVATE SECTOR 1988–89
($ million)

	Commenced	*Work done(a)*	*Work yet to be done(b)*
FOR THE PRIVATE SECTOR			
Roads, highways and subdivisions	776.0	903.5	610.1
Bridges	21.2	12.8	9.5
Railways	16.7	20.9	7.6
Harbours	29.6	25.7	14.3
Water storage and supply	59.2	63.3	2.1
Sewerage and drainage	52.5	62.2	4.6
Electricity generation, transmission and distribution	53.1	100.6	21.1
Pipelines	93.1	88.0	21.2
Recreation	177.4	202.7	30.7
Telecommunications	5.7	7.4	0.4
Heavy industry	1,167.1	1,296.2	525.6
Other	29.9	36.8	2.6
Total	*2,481.4*	*2,820.1*	*1,249.8*
FOR THE PUBLIC SECTOR			
Roads, highways and subdivisions	662.4	677.9	226.4
Bridges	117.1	76.4	74.9
Railways	28.9	39.6	20.9
Harbours	60.2	68.1	9.8
Water storage and supply	100.9	140.4	56.4
Sewerage and drainage	122.3	161.0	105.6
Electricity generation, transmission and distribution	285.8	396.0	371.5
Pipelines	69.6	38.3	32.1
Recreation	31.0	31.8	3.4
Telecommunications	4.2	6.4	1.4
Heavy industry	130.0	79.6	132.7
Other	1.9	4.7	0.5
Total	*1,614.3*	*1,720.1*	*1,035.7*
TOTAL			
Roads, highways and subdivisions	1,438.4	1,581.3	836.4
Bridges	138.3	89.3	84.4
Railways	45.6	60.4	28.5
Harbours	89.7	93.7	24.1
Water storage and supply	160.1	203.7	58.5
Sewerage and drainage	174.9	223.2	110.2
Electricity generation, transmission and distribution	338.9	496.6	392.7
Pipelines	162.7	126.3	53.3
Recreation	208.4	234.5	34.1
Telecommunications	9.8	13.8	1.9
Heavy industry	1,297.1	1,375.8	658.4
Other	31.8	41.5	3.0
Total	**4,095.7**	**4,540.1**	**2,285.4**

(a) During period. *(b)* At end of period

VALUE OF ENGINEERING CONSTRUCTION ACTIVITY BY THE PUBLIC SECTOR 1988–89
($ million)

	Commenced	Work done(a)	Work yet to be done done(b)
Roads, highways and subdivisions	1,807.0	1,240.7	1,056.4
Bridges	74.0	86.3	22.3
Railways	128.3	96.4	103.5
Harbours	19.5	23.0	9.8
Water storage and supply	330.5	353.0	413.9
Sewerage and drainage	339.9	342.9	216.8
Electricity generation, transmission and distribution	613.2	648.5	241.9
Pipelines	58.0	59.1	4.5
Recreation	70.6	67.5	13.9
Telecommunications	1,771.2	1,828.7	2.3
Heavy industry	2.1	8.3	2.7
Other	4.3	4.7	3.8
Total	**5,218.7**	**4,759.0**	**2,091.8**

(a) During period. (b) At end of period.

Construction Industry Survey

The Construction Industry Survey is a sample survey of private sector construction establishments and of public sector enterprises engaged in construction and repair and maintenance activities. The most recent survey was conducted in respect of 1988–89. For further details *see Year Book* No. 70.

The private sector collection was conducted as a component of the Bureau's integrated economic statistics program. This program has been developed so that data from each industry sector conform to the same basic conceptual standards, thereby allowing comparative analysis across different industry sectors. The results of this survey are therefore comparable with economic censuses undertaken annually for the mining, and electricity and gas industries and periodically for the transport, manufacturing, wholesale, retail and selected service industries.

Building Research Activity

The recently formed CSIRO Division of Building, Construction and Engineering continues as the main government funded building research body in Australia.

Staffed by some 200 researchers and technologists of international standing, their laboratories in Melbourne and Sydney contain the most extensive range of modern testing equipment in Australia. Close links are also maintained with leading overseas researchers and their specialist laboratories.

The work of the Division covers residential, non-residential, and engineering construction including all aspects of design, maintenance, construction, and planning. In addition to its research activities, it provides major support of national regulatory and standardisation processes, appraisal and testing of products, and a wide range of consulting services.

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Housing Costs of Income Units, Australia, Preliminary Results (4117.0)
Building Approvals, Australia (8731.0)
Building Activity, Australia: Dwelling Unit Commencements, Preliminary (8750.0)
Building Activity, Australia (8752.0)
Engineering Construction Survey, Australia (8762.0)
Construction Industry Survey: Private Sector Construction Establishments, Details of Operation, States and Territories, 1984–85 (8772.0–8772.8)
Public Sector Construction Activity Survey, 1984–85 (8775.0)
Construction Activity at Constant Prices, Australia (8782.0)

Details for particular States are available from publications issued regularly by the Deputy Commonwealth Statistician in each State.

Booklets of unpublished tables are available on request from the Income and Housing sub-section of the ABS:

Housing Costs and Occupancy
Housing Finance of Purchasers
Housing History and Intentions
Dwelling Characteristics of Households
Housing Costs (for each State and Territory)

Other Publications

The annual reports of the Commonwealth and State Government Housing Authorities show further details of government activities in the field of housing.

ENDANGERED SPECIES IN AUSTRALIA

(This special article has been contributed by the Australian National Parks and Wildlife Service)

Characteristics of the Australian flora and fauna

The plants and animals of terrestrial Australia are very different from those of other continents. Australia's origins in Gondwana and long isolation from the rest of the world have allowed the evolution of many groups not found in other countries, or uncommon elsewhere. Obvious examples include the eucalypts which dominate much of the landscape, and the wide variety of marsupials. Australia and New Guinea form a distinct biogeographic region.

The marine plants and animals, on the other hand, show many similarities to those of nearby oceans and shores. Because of Australia's size and location there are a great number of marine species in Australian seas.

The flora and fauna of Australia and its external territories are characterised by high natural diversity, high endemicity (species that occur nowhere else) and particular susceptibility to extinctions and declines.

High natural diversity

For example there are:

- at least 18,000 species of vascular plants and over 12,000 species of non-vascular plants (mosses, algae, lichens, fungi);
- about 850 species of birds;
- about 700 species of reptiles, including approximately 300 species of skinks; the reptile fauna of Australian deserts is the richest in the world;
- about 54,000 known species of insects, with at least as many species remaining to be identified and described; and
- about 3,600 species of fish and tens of thousands of species of molluscs; the flora and fauna of Australian coastal waters being among the most species-rich and diverse on earth.

High endemicity

- about 33 per cent of genera and 85 per cent of species of vascular plants are endemic;
- all the living species of monotremes (platypus and echidnas) are found only in Australia and New Guinea;
- 89 per cent of marsupials and 73 per cent of other mammals are endemic;
- about 70 per cent of bird species are endemic;
- 88 per cent of reptiles and 94 per cent of frogs occur nowhere else; the Pygopodidae (legless lizard family) is confined to Australia and New Guinea;
- the inland aquatic fauna has a very high level of species endemism; and
- there is a very high degree of endemism in the marine flora and fauna of the southern coast of Australia.

Susceptibility to extinctions and declines

Since European settlement began, just over 200 years ago, 18 species of mammals and about 100 species of vascular plants have become extinct. Currently about 40 species of mammals and many hundreds of species of plants are threatened with extinction. These figures are the worst in the world.

In relation to susceptibility to extinction, Australia has suffered rates of extinction more like those of small islands, than those of other continents.

Extinction and endangered species in Australia

Extinction is a natural evolutionary process. Nowadays, however, most extinctions are caused by humans. The most obvious difference between natural evolutionary extinctions and those induced by people is the rate. The current rate is much higher than the background natural rate and will increase further unless action is taken now.

Australia unfortunately provides too many striking examples of an increased rate of extinction since the arrival of Europeans. In only 200 years, 18 species of endemic mammals have become extinct (7 per cent of the total). This is half of all the mammal species that have become extinct worldwide in historical times.

About 100 species of vascular plants, 0.8 per cent of the total, have become extinct, the overwhelming majority having occurred in areas cleared for farming. Of the plant species presumed extinct in Western Australia (1.4 per cent of the State's flora), 90 per cent occurred in the agricultural lands of the south-west corner of the State. It is likely that some species of plants disappeared before they could be collected and named by scientists. These data compare unfavourably with only 27 extinct plant species in the whole of Europe (0.2 per cent), 39 in southern Africa (0.2 per cent) and 74 in continental USA (0.4 per cent).

An endangered species is one that could become extinct in the wild in 10 to 20 years, if nothing is done to protect it. Recent reviews suggest that about 40 species of mammals (16 per cent of living species) are threatened with extinction and that 209 species (1.4 per cent) of vascular plants are endangered with a further 784 species (5.2 per cent) being vulnerable.

The national figures for extinct and threatened species, shocking though they are, do not indicate the extent to which local diversity has been lost in large areas of the country. Many species are clinging to existence in small areas and may not be classified as threatened nationally, even though they are no longer found throughout their former range.

On a regional basis, extinctions have been much higher in some areas than in others. In the deserts, for example, 33 per cent of the mammal species are extinct and 90 per cent of all mammal species with an adult body weight between 35 grams and 5,500 grams are either extinct or endangered. The number of endangered plants is highest in the agricultural areas of the south-east and south-west, the east coast and in the rainforests of north Queensland. Victoria alone recognises 400 plant species as being 'at risk', compared with the national figure of 209 species classified as endangered.

Extinction continues. The extinct mammals, for example, did not all disappear last century. Recent studies have shown that most extinctions have occurred in the past 40 to 50 years. The ranges of many species continue to shrink.

Causes of extinction

Several processes have led to species becoming extinct or endangered. Often because extinctions happened some time ago and were not studied at the time, the exact reason for the loss of a particular species is not known. In many cases there were probably several compounding reasons. Some accepted reasons for species extinctions are shown below.

Habitat destruction

Clearing of habitat for agriculture and urban or other developments is a major cause of extinctions in Australia. Most species cannot exist outside a natural or semi-natural ecosystem. Besides broadscale clearing, fragmentation of habitat can lead to the loss of species from habitat remnants. This occurs when the remnants are too small to support a viable population, when a population disappears from a remnant because of a local event (e.g. a fire) and the species cannot re-invade across farmland, or when the remnant supports a plant population but not its pollinator.

Habitat change and degradation

Among the most obvious causes are changed fire regimes, salination, drainage, erosion, grazing by introduced herbivores (both domestic and feral) and the presence of environmental weeds (both from outside Australia and from other parts of Australia). Probably the least understood of these relate to fire. Most Australian plants and animals are well adapted to survive fire. However, in many parts of Australia there have been major changes between fire regimes resulting from Aboriginal land management practices and those followed by Europeans. It is these changed fire regimes (fire frequency, intensity, season, pattern, size) that have led to species disappearing. The management of some endangered species, for example the ground parrot, involves the application of appropriate fire regimes.

Introduced animals

Australia has a large number of introduced mammals and birds, an introduced frog and a few introduced invertebrates that have caused, or have the potential to cause, extinction of native species. Introduced herbivores that have become feral and caused significant environmental degradation include rabbits, goats, cattle, buffalo, pigs, donkeys and camels. Introduced rats and mice are also common in some areas. Feral honey bees are now widespread in Australia. Cane toads have recently spread from Queensland into the Northern Territory. Two exotic predators, cats and European red foxes, are now abundant and recent studies have shown that foxes are implicated in the disappearance of remnant populations of endangered mammals and may be affecting ground-dwelling birds such as the malleefowl. The presence of exotic species can lead to changed competitive relationships to the detriment of native species.

Introduced plants

Environmental weeds have replaced and are replacing native plants over wide areas. Examples include the invasion of exotic grasses into many areas of remnant vegetation in south-west Australia, the invasion of the annual herb *Carrichtera annua* over much of the Nullarbor Plain, the replacement of river gums with Athel trees (*Tamarix aphylla*) in river courses in central Australia, the spread of *Mimosa pigra* shrub into many tropical wetlands, the choking of some swamps by the floating fern *Salvinia* and the invasion of the boneseed shrub (*Chrysanthemoides monilifera*) into large areas of south-east Australia. Introduced plants, including Australian plants from other parts of the continent, both displace native plants and eliminate native animal species not adapted to using them for food or shelter.

Direct exploitation

No vertebrate species are thought to have become extinct solely because of hunting in Australia, but hunting, fishing and collecting for trade have the potential to cause extinctions of rare or localised species. The uncontrolled collection of plants for the wildflower trade or for horticulture also has the potential to cause extinctions.

Interactions of causes

A combination of factors, rather than a single factor, may finally tip the scales against some species. For example, the smaller wallabies are more vulnerable to predation when fire opens up their habitat or when populations are fragmented by habitat clearing or degradation. Remnant populations of mammals in deserts or on farmland may be affected by predators such as foxes, when rabbits become abundant enabling fox numbers to build up.

Conservation of endangered species

Because most Australian species are found nowhere else, Australians have a special responsibility to conserve them. In addition, Australia has a responsibility to conserve the many species that are shared with other countries. The best known examples of shared species are probably the migratory wading birds that breed in Siberia and other places in the northern hemisphere and spend the northern winter in Australia.

Many marine species that are distributed throughout parts of South-East Asia and the Pacific also occur in Australia. Some of these have been over-exploited outside Australian waters and Australia offers the best chance for their long-term conservation. Examples include mangrove trees, marine turtles, dugong, saltwater crocodiles and trochus shells.

The high standard of living, relatively low human population, strong economy and stable political situation make it possible for Australians to conserve species without many of the problems faced by other countries.

All Australian governments have adopted the World Conservation Strategy developed by the World Conservation Union(IUCN) in 1980. A National Conservation Strategy has been developed (1983) and endorsed by the Commonwealth, Western Australia, South Australia, New South Wales and the Northern Territory. Two States have prepared State Conservation Strategies.

The objectives of the National Conservation Strategy for Australia are to:

- maintain essential ecological processes and life-support systems;
- preserve genetic diversity;
- ensure the sustainable utilisation of species and ecosystems; and
- maintain and enhance environmental qualities.

Each of these four objectives depends on the maintenance of biological diversity, that is, the conservation of the species of plants, animals and micro-organisms of the world.

The European settlement and development of Australia, while providing considerable economic benefits, has come at a cost to the flora and fauna. Past land use decisions resulted in massive habitat destruction and degradation and consequent loss of species. These processes are continuing. Conserving threatened species will obviously cost money now. Integrating conservation objectives with land use decision-making is essential if these endangering processes are to be reversed. Conservation also makes good economic sense in the long term.

There are many reasons for the conservation of species.

The first is that compassion demands their preservation. Compassion develops from the view that other species have a right to exist; the needs and desires of humans should not be the only basis for ethical decisions.

The second reason is based on aesthetic and cultural values. Species should be preserved because of their beauty, symbolic value or intrinsic interest. Kangaroos and other larger mammals, wildflowers of striking beauty and butterflies of iridescent hue appeal automatically to most members of our society and we would feel a loss if they and the wild places they live in disappeared. The extinction of species reduces the richness of potential human experience.

The third is based on the economic benefits of biodiversity. Plants, animals and micro-organisms provide all our food, and many of our medicines and drugs, as well as renewable resources such as fuel, building materials, paper and leather. They are an essential resource for developing biological control of pests and diseases. The unique Australian flora and fauna, and the scenery they help create, also attract tourists.

So far only a minute proportion of the economic potential of Australian plants and animals has been realised. An example of this potential is the eucalypts now planted as cash crops throughout the subtropics of the world. Many other biological resources, including species considered 'useless' today, will be found to have new values in the future. Clearly, extinctions reduce our future options.

The fourth reason in that other species are vital components of ecosystems that provide us with indispensable free services—the life support systems of our planet. Other species

Blackboy and wildflowers in WA

Wildflowers

Koala

Numbat

provide the oxygen we breathe, maintain the quality of the atmosphere, control and ameliorate the climate, regulate fresh water supplies, generate and maintain the topsoil, dispose of wastes, generate and recycle nutrients, control pests and diseases, pollinate crops and provide a genetic store from which we can benefit in the future. The contribution of the rarer species to the provision of life-support systems is poorly understood. However, some rarer species may be important in the recovery processes following ecosystem disturbance. Change in the future is inevitable and likely to be rapid. Today's rare plant and animal species may become tomorrow's keystone species as conditions change.

In addition to the above reasons, many Australians wish to conserve the plants and animals of their country because of pride in their natural heritage.

It is also important to maintain the full range of genetic diversity within individual species. Small populations lose genetic diversity over time. Without genetic variability a species cannot evolve or adapt to changing environments, and it is vulnerable to new conditions such as climatic change or new diseases. Adequate levels of genetic diversity can only be maintained if species are conserved as viable populations in the wild—zoos and botanic gardens can assist this process, not replace it. The rapidly developing techniques of the new science of biotechnology also depend on genetic diversity.

Responsibility for endangered species conservation

The conservation of endangered species is the responsibility of all levels of government and the wider community.

The States, through their constitutional responsibility for land use and management, are the major participants, and States and Territories have passed some legislation relating to wildlife conservation.

Over the past few years the Commonwealth Government has taken a number of initiatives in endangered species conservation, firstly through Australian participation in international treaties, especially the Convention on Trade in Endangered Species (CITES), and then via financial assistance to the States and other organisations involved in endangered species conservation. National coordination has been through the Council of Nature Conservation Ministers (CONCOM).

In 1988 the Commonwealth Minister for the Arts, Sport, the Environment, Tourism and Territories established an Endangered Species Advisory Committee (ESAC) with the following objectives:

- to develop a national strategy that will seek to conserve endangered wildlife (plants and animals) and their habitats and prevent further species becoming endangered. The strategy will provide a guide for all policy and decision makers, and the public, on matters relating to endangered species;
- to promote management practices that ensure the recovery of endangered species and ensure that no further species become endangered;
- to provide a national forum for the discussion of relevant matters; and
- to provide advice to the Commonwealth Minister for the Arts, Sport, the Environment, Tourism and Territories.

The Endangered Species Advisory Committee comprises representatives from the Commonwealth Government, CONCOM, non-government organisations involved in conservation, scientific/research institutions and the rural community.

In July 1989 the Prime Minister announced the establishment of an Endangered Species Unit within the Australian National parks and Wildlife Service. The Endangered Species Program was allocated $2 million for each of the first two years of a ten year program. The Endangered Species Unit provides technical and secretariat support to the ESAC.

Hope for the future

The trend towards increasing rates of extinction can be reversed and recent positive initiatives and actions have occurred.

Some national parks and other conservation reserves have been declared primarily to protect certain endangered species. For example, in New South Wales the Queanbeyan Nature Reserve protects the endangered button wrinkle wort daisy, *Rutidosis leptorhynchoides*. In Western Australia the recently declared beekeepers Road Nature Reserve protects the endangered hidden beard-heath, *Leucopogon obtectus* and the new Babakin Nature Reserve protects the endangered underground orchid, *Rhizanthella gardneri*.

The population decline of many endangered species has been reversed by the application of research results Animal species rescued from the brink of extinction include the numbat, northern hairy-nosed wombat, noisy scrub-bird, Lord Howe Island woodhen and the orange-bellied parrot. Research into important factors like fire and the impact of introduced animals has led to improved management regimes.

Special legislation for endangered species has already been enacted in Victoria and is proposed for New South Wales. Endangered plants legislation has been passed in Western Australia.

Australians now need to make a commitment to further develop these initiatives so as to maintain our rich and diverse wildlife heritage.

21

TRANSPORT AND COMMUNICATIONS

This chapter contains information on transport and communications and the government bodies concerned with these activities. More detailed figures and particulars for earlier years are included in the publications listed in the bibliography at the end of the chapter.

TRANSPORT ORGANISATIONS

The Australian Transport Advisory Council—ATAC

In April 1946, Commonwealth and State Governments agreed to establish a coordinating and advisory council at ministerial level with the principal function of reviewing annually the various laws and regulations deemed necessary to safeguard the interests of the State governments and road users generally, and to consider matters of transport policy. The Australian Transport Advisory Council comprises Federal, State and Territory ministers responsible for transport, roads and marine matters. The New Zealand Minister of Transport and Civil Aviation is also represented on the Council as an observer.

At present, the Council meets annually and its primary role is to review and coordinate various aspects of transport policy, development and administration. The Council functions through initiating discussion and reports on any matter raised by Council members, and by providing advice on matters which will promote better coordination and development of transport to the benefit of Australia. The Council has one policy advisory group reporting directly to it, the Standing Committee on Transport (SCOT). The Committee comprises a representative of each ATAC minister, usually the heads of the relevant departments, and deals with overall issues of policy coordination and development. The Committee is supported by four groups of specialist advisers covering the interests of road, rail, road safety and marine and ports.

In addition, the following technical committees and subsidiary bodies report to the Marine and Ports Group and the Road Safety Group:

- Ship Standards Advisory Committee
- Marine Pollution Advisory Committee
- Road User Safety Advisory Committee
- Licensing and Traffic Codes Committee
- Advisory Committee on Transport of Dangerous Goods
- Vehicle Standards Advisory Committee
- Advisory Committee on Vehicle Emissions and Noise
- Advisory Panel on Recall and Unsafe Parts
- Australian Motor Vehicle Certification Board.

Australian Road Transport Advisory Committee—ARTAC

ARTAC comprises representatives of all sectors of the road freight industry and others with relevant specialist expertise. This Committee provides a specific channel of road freight industry advice to the Commonwealth Minister. Membership of the Committee is drawn from the Transport Industries Advisory Council.

Bureau Of Transport And Communications Economics—BTCE

The Bureau is a centre for applied economic research in the Department of Transport and Communications. It undertakes studies and investigations that contribute to an improved understanding of the factors influencing the efficiency and growth of the transport and communications sector and the development of effective transport and communication policies.

The Bureau regularly publishes the results of its research work and its publications are available through the Commonwealth Government Bookshops in capital cities.

Civil Aviation Authority—CAA

The CAA was established under the *Civil Aviation Act 1988* and commenced operations on 1 July 1988.

The Authority is responsible for safety regulations of civil aviation in Australia and of Australian aircraft operating outside Australia. It also provides air route and airway facilities and associated services to the aviation industry, i.e. air traffic control, flight service, rescue and fire fighting, search and rescue and aeronautical information.

Costs for the provision of these services are recovered through charges to the industry, but the major part of the costs related to the Authority's safety regulatory functions are funded through the Federal Budget by means of a contract between the Government and the Authority.

The Authority's 7,100 staff are employed under the Public Service Act.

The Authority represents Australia on the Council of the International Civil Aviation Organization based in Montreal and is authorised to provide consultancy and management services to other countries.

Federal Airports Corporation—FAC

The Federal Airports Corporation is a Commonwealth Statutory Authority established by, and incorporated under, the *Federal Airports Corporation Act 1986*. The Act was passed by the Commonwealth Parliament on 14 February 1986, and proclaimed on 13 June 1986.

On 1 January 1988 the FAC assumed ownership, management and development of Australia's major airports and for the commercial activities on the airports, including arrangements with airlines and other operators for the use of airports and for leasing of property and the letting of business concessions.

The Federal Airports Corporation has responsibility for the following airports:

- NSW—Sydney (Kingsford Smith) Airport, Bankstown, Hoxton Park and Camden
- Vic.—Melbourne, Essendon and Moorabbin
- Qld—Brisbane, Archerfield, Townsville, Mount Isa and Coolangatta
- SA—Adelaide and Parafield
- WA—Perth and Jandakot
- Tas.—Hobart, Launceston and Cambridge
- NT—Darwin, Alice Springs and Tennant Creek
- ACT—Canberra

The Corporation is a statutory transport business undertaking of the Commonwealth and is required to act in accordance with sound commercial practice. It is commercially flexible and responsive in order to make changes and act in a timely manner to meet the requirements of a dynamic market.

To allow it to do this, the Corporation is not bound by many of the constraints that apply to a Government Department.

Like any business, the Corporation is required to be financially self-supporting. It has been established with a capital base and debt/equity ratio determined by the Commonwealth Government in accordance with the FAC legislation.

Independent Air Fares Committee

The *Independent Air Fares Committee Act 1981*, which came into operation in January 1982, is part of the 'two-airline policy' legislation which will terminate on 30 October 1990.

The Act established the Independent Air Fares Committee with responsibility for approving the passenger fares charged on domestic air services by trunk route, regional and commuter operators.

The Committee's principal functions are, subject to criteria specified in the Act, to undertake cost allocation reviews for nominated operators to determine how domestic air service costs should be recovered from passenger fares, to determine the level of economy air fares after conducting reviews for any operator, and to approve discount air fares on application from operators. Details of the Committee's determinations and decisions are notified in the *Commonwealth of Australia Gazette*.

Following abolition of the Committee in October 1990, interstate air fares will be made subject to surveillance by the Prices Surveillance Authority.

Transport Industries Advisory Council—TIAC

The Council was formed following the March 1971 Australian Transportation Conference. The Council advises the Commonwealth Minister for Transport and Communications on national transport issues.

The members of TIAC are drawn from senior management of authorities representing all modes of transport, including user groups, government bodies and unions. The Minister appoints members on the basis of personal expertise and the contribution they may be able to make to Council affairs. The full Council, which meets four times a year, operates through an Executive Committee and subject-specific Project Committees. A report of TIAC activities is published annually in the Department of Transport and Communications Annual Report.

THE TRANSPORT INDUSTRY

Transport Industry Survey

This section contains statistics obtained from a survey of transport establishments conducted in respect of 1983–84 (referred to as the Transport Industry Survey). This survey was the first of its kind conducted in Australia and included establishments predominantly engaged in providing passenger or freight transport services for hire or reward by road, rail, water and air transport (collectively referred to as the modal transport industries) plus freight forwarding.

The survey was conducted as a component of the Australian Bureau of Statistics integrated economic statistics system and the results are comparable with economic censuses and surveys undertaken annually for the mining, manufacturing and gas industries and periodically for the wholesale, retail and selected service industries.

Summary of operations

The following table shows key items of data by industry mode for transport establishments in Australia, for the year 1983–84. The industries described are based on the 1983 edition of the Australian Standard Industrial Classification (ASIC).

TRANSPORT ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY MODE, AUSTRALIA, 1983–84

ASIC Code	*Description*	*Establishments at 30 June 1984*	*Average employment over whole year (a)*	*Wages and salaries (b)*	*Turnover*	*Stocks*		*Total purchases, transfers in and selected expenses*	*Value added*	*Fixed capital expenditure less disposals*
						Opening	*Closing*			
		No.	No.	$m	$m	$m	$m	$m	$m	$m
511	Road freight transport	32,943	99,606	902.5	5,187.3	47.4	49.8	2,921.8	2,267.8	237.6
512	Road passenger transport	10,615	45,841	571.2	1,528.6	34.0	37.4	593.5	938.5	56.4
5200	Rail transport	12	86,721	1,688.5	3,314.8	178.9	179.4	1,417.5	1,897.8	406.9
53	Water transport	165	8,978	212.7	1,238.9	14.9	14.7	814.5	424.3	23.2
54	Air transport	334	23,597	600.8	2,958.0	20.4	19.9	1,747.9	1,209.6	178.1
51–54	**Total modal transport**	**44,069**	**264,743**	**3,975.7**	**14,227.6**	**295.6**	**301.2**	**7,495.2**	**6,738.0**	**902.2**

(a) Includes working proprietors and partners. *(b)* Excludes the drawings of working proprietors and partners.

Business Vehicle Survey

Concurrent with the Transport Industry Survey (TIS), the Bureau conducted a Business Vehicle Survey (BVS) to obtain a more complete picture of road freight transport activity in Australia. This involved the collection of road freight transport information from a sample of private enterprises whose main activity was not road freight transport but who operated at least one truck with a gross vehicle mass of 2.7 tonnes or more and used that truck to carry freight on public roads.

Results from the TIS and BVS were combined to produce estimates of road freight activity as shown in the following table.

ROAD FREIGHT ACTIVITY OF PRIVATE ENTERPRISES: SUMMARY OF ACTIVITY BY INDUSTRY DIVISION, AUSTRALIA, 1983–84

ASIC Code	*Description*	*Enterprises at 30 June 1984*	*Trucks operated at 30 June 1984*			*Truck drivers at 30 June 1984*			*Wages and salaries paid to truck drivers(a)*	*Freight carried on trucks (b)*
			Rigid	*Articulated*	*Total*	*Working proprietors/partners*	*Employees*	*Total*		
A	Agriculture, forestry, fishing and hunting	85,796	105,446	8,163	113,609	11,727	3,416	15,143	35.3	58.5
B	Mining	557	2,151	424	2,575	62	1,810	1,872	37.6	17.3
C	Manufacturing	8,109	21,545	2,867	24,413	694	16,049	16,743	279.0	43.8
E	Construction	12,383	18,327	1,494	19,822	2,066	4,860	6,926	79.8	40.1
F	Wholesale and retail trade	19,333	34,222	3,544	37,766	4,070	16,885	20,955	297.9	55.8
511	Road freight transport	32,616	36,535	21,307	57,842	28,147	27,818	55,966	501.5	362.1
512–580	Other transport and storage	742	1,237	251	1,488	157	684	841	13.0	5.2
G	Total transport and storage	33,358	37,772	21,558	59,330	28,305	28,502	56,807	514.5	367.3

For footnotes *see* end of table.

ROAD FREIGHT ACTIVITY OF PRIVATE ENTERPRISES: SUMMARY OF ACTIVITY BY INDUSTRY DIVISION, AUSTRALIA, 1983–84—*continued*

ASIC Code	Description	Enterprises at 30 June 1984	Trucks operated at 30 June 1984			Truck drivers at 30 June 1984			Wages and salaries paid to truck drivers(a)	Freight carried on trucks (b)
			Rigid	Articulated	Total	Working proprietors/partners	Employees	Total		
I	Finance, property and business services	1,718	3,725	922	4,647	97	2,612	2,710	51.0	11.4
K	Community services	1,055	2,277	42	2,319	500	1,187	1,688	20.4	6.5
L	Recreation, personal and other services	1,773	2,523	159	2,682	247	677	924	10.0	6.2
	Total	**164,081**	**227,988**	**39,174**	**267,161**	**47,769**	**75,999**	**123,768**	**1,325.5**	**606.9**

(*a*) Excludes the drawings of working proprietors and partners. (*b*) Estimates of freight carried relate to freight uplifted by trucks and therefore, to the extent that transshipment occurs (i.e. the transfer of freight from one truck to another), estimates of freight carried will overstate the actual physical quantity of freight moved.
NOTE: Road freight activity data collected from road freight establishments included in the TIS has been tabulated against the industry to which the enterprise of the road freight transport establishment is classified, e.g. the figures for a road freight establishment of a manufacturing enterprise would be tabulated against ASIC Division C.

SHIPPING

Control of Shipping

Commonwealth Government navigation and shipping legislation

Commonwealth Acts concerned with shipping are: the *Navigation Act 1912*, the *Sea Carriage of Goods Act 1924*, the *Seamen's Compensation Act 1911*, the *Seamen's War Pensions and Allowances Act 1940*, the *Protection of the Sea (Civil Liability) Act 1981*, the *Protection of the Sea (Powers of Intervention) Act 1981*, the *Protection of the Sea (Shipping Levy) Act 1981*, the *Protection of the Sea (Shipping Levy Collection) Act 1981*, the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, the *Navigation (Protection of the Sea) Amendment Act 1983*, the *Australian Coastal Shipping Commission Act 1956*, the *Environment Protection (Sea Dumping) Act 1981*, the *Submarine Cables and Pipelines Protection Act 1963*, the *Lighthouses Act 1911, the Explosives Act 1961*, the *King Island Shipping Service Agreement Act 1974*, the *Bass Strait Sea Passenger Service Agreement Act 1984*, the *Ship Construction Bounty Act 1975*, the *Bounty (Ships) Act 1980*, the *Bounty (Ship Repair) Act 1986*, the *Australian Shipping Commission (Additional Capital) Act 1985*, the *Ships (Capital Grants) Act 1987*, the *Trade Practices Act 1974* Part X (as amended by the *Trade Practices (International Liner Cargo Shipping) Amendment Act 1989)*, the *Shipping Registration Act 1981*.

Navigation Act

The *Navigation Act 1912* (as amended), provides for various regulatory controls over ships and their crews, passengers and cargoes, mainly for the preservation of life and property at sea. Substantial penalties are provided for serious offences. The Act gives effect to a number of important international conventions produced under the aegis of the International Maritime Organization (IMO).

Regulations and Orders under the Act give legislative effect to various safety and technical requirements in respect of ships, their cargoes and persons on board.

Taken in the order in which they appear in the Act, the main substantive matters dealt with are as outlined below.

Masters and seamen

Some sections deal with the examination of masters, mates and engineers for certificates of competency. Other sections ensure that appropriate conditions apply to crews serving on ships by providing for the engagement, discharge and payment of wages; discipline at sea; the settlement of wages and other disputes; the return to their home port of distressed seamen; taking charge of wages and effects of deceased seamen and of those who have been left behind; and inquiries into deaths at sea. The health of seamen is cared for by the prescription of scales of medicines and medical stores to be carried by ships, and there are provisions to give effect to International Labour Organisation Convention requirements for the accommodation of crews. Plans for new or altered accommodation in ships have to be approved.

The Act provides for a Marine Council to advise the Minister on the suitability of persons for engagement as seamen.

Ships and shipping

There are particularly important provisions dealing with ship safety in such matters as survey of ships, load lines, life-saving and fire appliances, prevention of collisions, and carriage of potentially dangerous cargoes. While in Australia, all ships which trade interstate or overseas come under the survey provisions of the Navigation Act and require certificates issued or recognised by the Department of Transport and Communications, unless they are registered in a country which is a party to the Convention concerned and hold valid certificates issued by their governments and conforming to the requirements of the Safety of Life at Sea and Load Lines Conventions. There is power to detain any ship, the condition of which does not conform with the conditions set out in its certificate, or which appears to be overloaded or otherwise unseaworthy or substandard.

Passengers

These provisions deal with matters necessary or convenient for regulating the carriage of passengers in respect of such matters as numbers that may be carried, accommodation and health aspects.

Offshore industry

These provisions deal with offshore industry vessels and offshore industry mobile units. Marine Orders give effect to IMO resolutions on this sector of the marine industry.

Coasting trade

Under the coasting trade provisions of the Navigation Act, the Australian coastal trade is reserved for licensed vessels, i.e. those which employ seamen at Australian wage rates and are not subsidised by foreign governments. The Act does not restrict the class of ships which may obtain a licence. It is open to any vessel, irrespective of the registry, to obtain a licence on compliance with these conditions and to operate in the Australian coastal trade. Provision exists for unlicensed vessels to carry interstate cargoes under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade.

Wrecks and salvage

There are provisions in relation to wrecks and salvage, covering preservation of life and of the wreck and its cargo and related matters.

Limitation and exclusion of shipowners' liability

These sections give effect to an international convention and make provision on the widest possible basis for the limitation of shipowners' liability in Australia.

Courts of Marine Inquiry

There are provisions for the holding of Courts of Marine Inquiry to investigate the circumstances attending any casualties to ships that come within Commonwealth legislative authority, usually following a preliminary investigation.

Shipping Registration Act

The *Shipping Registration Act 1981* received Royal Assent on 25 March 1981 and was proclaimed on 26 January 1982. This Act replaces Part I of the Merchant Shipping Act

1894 (UK) under which ships in Australia were registered as British ships. The Act provides for all ships on the British Register in Australia to be automatically transferred to the new Australian Register. The Act has two basic objectives, namely the conferring of Australian nationality on Australian-owned ships and the registration of ownership and encumbrances.

The Act was amended in 1985 to improve the general administration and the protection of registered and unregistered interests.

Taken in order in which they appear in the Act, the main substantive matters are as follows.

Registration of ships
This part deals with the obligation to register Australian-owned ships, the ships permitted to be registered, the application for registration, particulars to be entered in the Register, the issue of Registration Certificates, Provisional Registration Certificates and Temporary Passes, changes in ownership, marking and naming of the ship, nationality of ships, flags to be flown, assuming and concealing Australian nationality.

Transfers, transmissions and mortgages
This part deals with the transfer, transmission of ship and shares, the taking out, transfer, transmission and discharge of mortgages and the entry of this information into the Register. Caveats can be lodged to protect unregistered interests.

Administration
This part deals with the appointment of the Registrar, delegation of the powers of the Minister and Registrar, the establishment of the Shipping Registration Office and Branch Offices.

Register of ships
This part deals with the maintenance, rectification and inspection of the Register.

Miscellaneous
This part deals with liabilities of ships not registered, the appointment of registered agents, alterations to a registered ship, forfeiture and detention of ships, taking officers to sea, false statements, offences, evidentiary provisions, review, jurisdiction and appeals, preservation of State and Territory legislation and regulation making powers.

Transitional provisions
This part deals with the change over from the previous law to the new legislation. This includes the completion of transactions commenced under the previous law and the acceptability of documents prepared under the previous law. This part is now largely non-operative.

Ships (Capital Grants) Act

The *Ships (Capital Grants) Act 1987* provides shipowners with a taxable grant of 7 per cent of the purchase price of eligible new, or newly acquired second-hand trading ships. The legislation defines the conditions and procedures under which a grant may be paid. Briefly, the Act requires that ships hold a category certificate and be crewed in accordance with crewing benchmarks specified for that category, be registered in Australia and crewed with Australian residents. As part of its Shipping Reform Strategy the government has agreed to extend the grant provisions to new vessels introduced before 30 June 1997—a five year extension of the Act. Existing Australian vessels which undergo structural or equipment changes which allow a reduced crew level will also be eligible for grants. In this case a grant is payable at a rate of 7 per cent of the cost of the modifications. Grants are also payable for newly acquired second-hand ships less than five years old which commence operation under the Australian flag between 1 July 1987 and 30 June 1990.

ANL Limited

ANL Limited is an incorporated public company, all the shares of which are owned by the Commonwealth. It is Australia's national shipping line.

ANL Limited was created on 1 July 1989 under the *ANL (Conversion into Public Company) Act 1988*. The Company is the successor to the Australian Shipping Commission (trading as the Australian National Line) which was created in 1956 as the Australian Coastal Shipping Commission.

Incorporation has enhanced the Line's freedom to manage itself on a day-to-day basis and its ability to compete on equal terms with private shipping operators. Accountability is maintained through strategic oversight, by monitoring corporate plans and financial targets.

As at 30 June 1989, ANL operated a fleet of 14 ships comprising ten ships in overseas trades and four in coastal trades and having a combined deadweight tonnage of 651,000 tonnes. The overseas fleet includes seven liner ships totalling 171,000 deadweight tonnes, a specialised car carrier of 9,000 deadweight tonnes and two bulk carriers totalling 279,000 deadweight tonnes. On the coast, ANL operates three bulk carriers totalling 185,000 deadweight tonnes and a roll-on roll-off ship of 7,500 deadweight tonnes.

On 1 November 1988, ANL merged its container terminal and stevedoring operations with those of James Patrick and Company Pty Ltd to form National Terminals (Australia) Limited (NTAL). ANL is the majority shareholder with 60 per cent of the shares and Patricks holds the other 40 per cent. NTAL is Australia's largest container terminal operator with terminals at Sydney, Melbourne, Brisbane and Tasmanian Ports.

From 1983 to 1988, affected by the general downturn experienced by the shipping industry, ANL implemented a program of rationalisation and withdrew from unprofitable services. This saw fleet numbers fall from 33 in 1983 to 12 in early 1989. With the current upturn in the shipping industry, ANL is now aiming to replace its ageing fleet with modern, fuel-efficient, low-crewed vessels and to expand its business base. Two additional ships joined the fleet in May and June 1989. ANL has also placed orders for two cellular container vessels to be built in Korea for use in its Asian liner trades and two roll-on roll-off vessels, one to be built in Singapore and one in Newcastle, for the coastal trade.

The Line has also been moving into shipping-related activities, particularly container management, freight forwarding, ship agency, customs agency and ship management services in an effort to broaden its revenue base and provide a more integrated transport service.

Shipbuilding assistance

The shipbuilding industry has been assisted by the Government since the introduction of the shipbuilding subsidy scheme in 1947.

In the 1970s shipbuilding was a highly protected industry seeking principally to maintain its market position against highly competitive overseas builders. It endeavoured to achieve this by producing a broad range of vessels. However, since the closure of facilities in Whyalla and Newcastle, Australia no longer produces large ships.

Under the *Bounty (Ships) Act 1980*, bounty is paid to registered shipbuilders on the cost of construction of bountiable vessels, i.e. vessels exceeding 150 gross construction tonnes (gct), and to fishing vessels exceeding 21 metres in length or 150 gct. Currently bounty is paid at a rate of either 15 or 20 per cent.

As a result of a restructuring plan introduced in 1984, the shipbuilding industry has improved its performance dramatically. Orders currently exceed $600 million of which half are for export. In 1984 no Australian ship of bountiable size was exported.

The Australian industry has successfully entered a number of international markets with high quality, innovative designs. New technology catamarans, luxury motor yachts and specialised fishing vessels have given Australia a competitive advantage in some previously untapped markets.

The success in the restructuring plan lead to the Government's decision, in November 1988, to continue bounty assistance for another six years, but with revised registration criteria for shipbuilders and with a phasing down in bounty rates until June 1995, when the bounty assistance is to cease.

These changes in the policy were announced following the Government's consideration of an Industries Assistance Commission's report of 29 June 1988. The *Bounty (Ships) Act 1989* provides assistance to shipbuilders from 1 July 1989 to 30 June 1995.

As at 30 June 1989, 24 shipbuilders were registered for bounty purposes. In 1988–89, 58 vessels were completed, valued at $179.7 million compared with 49 completed vessels, valued at $132 million, in the previous year.

Total financial assistance to the Australian shipbuilding industry in 1988–89 amounted to $45.0 million (compared with $37.2 million in 1987–1988 and $42.0 million in 1986–87).

Total financial assistance to registered ship repairers in 1988–89 amounted to $3.2 million (compared with $2.3 million in 1987–88).

Ship repair

In October 1986, the Government announced a 3 year, $6 million ship repair assistance package aimed at strengthening the ship repair industry. Two major elements of the package were the bounty payable to registered ship repairers, and the extension of the Department of Transport and Communication's official ship safety inspection system which gave effect to internationally accepted health and safety standards based on the International Labour Organisation (ILO) Convention 147. The bounty applied to international trading vessels of at least 6,000 deadweight tonnes, whether Australian or foreign owned, and was payable up to 30 per cent of the repair contract price. The bounty has now expired.

Importation of ships

The restrictions on the importation of ships under the Customs (Prohibited Imports) Regulations were removed on 21 December 1988. As a result, the permission of the Minister for Transport and Communications is no longer required for the importation of ships.

This decision followed the Government's consideration of the Industries Assistance Commission's August 1988 report on the ship building industry.

Stevedoring industry

In December 1977, legislation was introduced which provided for new administrative, financial and industrial arrangements for the stevedoring industry, and abolished the Australian Stevedoring Industry Authority. The arrangements give the parties directly involved in the industry greater responsibility for the industry's affairs.

The Stevedoring Industry Finance Committee is responsible for the disbursement of funds collected through statutory man-hour and cargo levies.

A federal coordinating committee, comprising respresentatives of the employers and the Waterside Workers' Federation (WWF), Broken Hill Pty Ltd (BHP) and the Australian National Line, oversees the operation of arrangements agreed to in the General Agreement between employers and the WWF. At the port level such matters are handled by Port Co-ordinating Committees set up in the major ports.

Under section 168 of the *Industrial Relations Act 1988*, a Port Conciliator Service was established to assist parties to an industrial award to implement the procedures of that award for the prevention or settling of disputes.

The Statutory provisions relating to the industry are contained in the *Stevedoring Industry Finance Committee Act 1977*, the *Stevedoring Industry Levy Act 1977*, the *Stevedoring Industry Levy Collection Act 1977*, the *Port Statistics Act 1977* and part VI, division 9, of the *Industrial Relations Act 1988*.

Waterfront reform

In June 1989 the Government outlined a comprehensive plan for reform of Australia's waterfront.

The Government broadly accepted the findings of the Inter-State Commission (ISC) Waterfront Report which was released on 6 April 1989 following more than two years of intensive investigations into the means of improving the waterfront's efficiency, productivity, reliability and industrial relations record.

Reforms are being made in three major areas:

(a) The reform of the stevedoring and container depot industries, will proceed in accordance with the provisions of an in-principle agreement with the ACTU, stevedoring unions and employers. Major changes flowing from the agreement which will be implemented over a 3 year period include:

- introduction of enterprise employment at major ports;
- a one-off special retirement/redundancy package for 3,000 employees and a recruitment program for 1,000 new entrants over the next three years to rejuvenate the workforce;
- Government funding of up to $154 million towards redundancy payments, traiing, skills audits and job redesign projects with a similar employer contribution;
- award restructuring for the development of skills related career paths and a greater emphasis on training;
- introduction of arrangements for a supplementary workforce to meet fluctuating labour demands on a daily hire basis; and
- phasing out of cross-subsidisation of stevedoring labour costs in small ports.

The Waterfront Industry Reform Authority (WIRA) will have responsibility for oversighting the Agreement implementation, monitoring and reporting to government on progress in the introduction of the new arrangements and the disbursal of restructuring assistance.

(b) Port authority reforms. A meeting with State and Northern Territory government ministers was held on 11 August 1989 at which the States endorsed the Federal Government's approach and indicated their commitment to reform of port authority operations consistent with the ISC's recommendations. A joint Commonwealth–State review of progress is to occur in early 1990.

(c) Ensuring a more competitive commercial environment on the waterfront. Additional resources have been allocated to the Trade Practices Commission to enable it to effectively apply the Trade Practices Act to the waterfront industry, including the scrutiny of uncompetitive practices in the container depot industry. The Prices Surveillance Authority is being directed to review pricing practices in the stevedoring industry.

Tasmanian Freight Equalisation Scheme

The Tasmanian Freight Equalisation Scheme was first introduced on 1 July 1976 following the Nimmo Commission of Inquiry into transport to and from Tasmania. It was revised in 1985 following the government's consideration of the Inter-State Commission's March 1985 report.

The Scheme is designed to alleviate the comparative freight cost disadvantage of shipping certain non-bulk goods by sea between Tasmania and the mainland. Responsibility for administration of the Scheme lies within the Transport and Communications portfolio.

The northbound component of the Scheme covers eligible goods produced or manufactured in Tasmania for use or sale on the mainland. The southbound component covers eligible non-consumer raw materials, machinery and equipment for use in manufacturing, mining, agriculture, forestry and fishing industries in Tasmania. In 1988–89, $30.1 million in assistance was paid on the northbound component and $4.3 million on the southbound component.

Trade Practices Act

Part X of the Trade Practices Act (as amended by the *Trade Practices (International Liner Cargo Shipping) Amendment Act 1989*) provides a regulatory framework for Australia's international liner trades and encourages a more competitive shipping environment for the benefit of Australian exporters. Under the amended legislation, which came transitionally into effect by Proclamation on 1 August 1989 and which will fully replace the previous part X of the Trade Practices Act on 1 February 1990, shipping conferences (cartels) now receive only limited exemption from the Act's competition provisions for registered agreements.

The objectives of the new law are to:

- ensure that Australian exporters have continued access to outwards liner cargo shipping services of adequate frequency and reliability at freight rates that are internationally competitive;
- promote conditions in the international liner cargo shipping industry that encourages stable access to export markets for exporters in all States and Territories; and
- ensure that efficient Australian flag shipping is not unreasonably hindered from normal participation in any outwards liner cargo shipping trade.

The creation of a more competitive liner shipping environment is being encouraged by the introduction of a number of important mechanisms. Exemption from the restrictive trade practice provisions of the Trade Practices Act is limited to conduct by conference shipping services which is of benefit to Australian exporters. Appropriate pro-competitive provisions of the Trade Practices Act are applied to ocean carriers, including section 46 which prohibits misuse of market power and a provision based on section 49, which prohibits discrimination between like placed shippers.

There is also a requirement for conference agreements to be publicly available and to comply with minimum standards, and for conferences to take part in negotiations with a designated shipper body over minimum service levels, freight rates and service arrangements.

The Trade Practices Commission and the Trade Practices Tribunal have investigating and reporting powers in relation to conference agreements, non-conference ocean carriers with a substantial degree of market power and unfair pricing practices.

Sea Carriage of Goods Act

The *Sea Carriage of Goods Act 1924*, provides for regulation of carriers' responsibilities and liabilities in sea borne trades. The Act is based on an international convention, known as the Hague Rules, which came into effect in 1924.

The Hague Rules, and consequently the Act, have become technically deficient in a number of areas and in June 1988 the Government announced it would amend the Act to take into account international trends in marine cargo liability regulation. Australia will formally adopt and implement the Visby and SDR Protocols to the Hague Rules. This will bring Australian legislation into line with practices in the major European countries. The amended Act will also provide a mechanism for the future implementation of the Hamburg Rules, a United Nations Convention on the Carriage of Goods by Sea, when these Rules have gained wider international acceptance and represent a viable alternative for Australia.

Marine pollution

The *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, the *Navigation (Protection of the Sea) Amendment Act 1983*, the *Protection of the Sea (Powers of Intervention) Act 1981*, the *Protection of the Sea (Civil Liability) Act 1981*, the *Protection of the Sea (Shipping Levy) Act 1981* and the *Protection of the Sea (Shipping Levy Collection) Act 1981* currently provide the Commonwealth with the power to deal with matters relating to marine pollution.

The Acts respectively provide for the control of discharges at sea and provision of control equipment and procedures on ships; empower the Minister to intervene to take action to prevent or reduce pollution, make provision relating to limitation of liability of oil tankers for oil pollution damage; and provide for the collection of a levy to finance the National Plan to Combat Pollution of the Sea by Oil.

Collection and Presentation of Statistics

Statistics relating to shipping and cargo are compiled from information provided to the Australian Customs Services (ACS) by importers, exporters, shipping companies and their agents. This information is supplied to the Australian Bureau of Statistics by ACS on a regular basis and is used to produce transport oriented statistics via the following two collections:

- *Shipping and Cargo (B380).* A direct collection from shipping companies of details of ship movements and cargo carried.
- *Shipping and Air Cargo Commodity Statistics (SACCS).* A collection which combines information from import and export documents submitted to the ACS with transport and shipping information to provide a comprehensive picture of the transport base of Australia's foreign trade.

Shipping and Cargo Statistics

The scope of the statistics

The statistics relate to ships calling at or departing from Australian ports for the purpose of carrying cargo from or to overseas ports. Details are not required for:

(i) naval ships;
(ii) yachts and other craft used for pleasure;
(iii) foreign fishing ships visiting Australian ports for purposes other than the loading or discharge of cargo;
(iv) Australian registered fishing ships operating from Australia ports;
(v) geographical survey ships, seismic survey ships, oceanographic survey ships;
(vi) offshore oil drilling rigs and ships servicing them; or
(vii) ships of 200 registered net tonnes and under.

Period covered by the statistics

Shipping and cargo statistics are compiled, on a financial year basis, according to the period during which ships actually arrived or departed Australian shores.

Ship characteristics

Ship recording

Ship movement statistics are recorded as 'Ship Number' and 'Ship Calls'. 'Ship Number' relates to the number of overseas direct arrivals to, or departures from Australia. 'Ship Calls' relates to the number of port visits that an overseas ship makes in Australia. For example, an overseas ship which arrives direct in Brisbane and makes a further call in Sydney before departing for an overseas port from Melbourne is counted as one under 'Ship Number' for both arrivals (Brisbane) and departures (Melbourne) and as one arrival call and one departure call for each of the three ports.

Ship type

All ships are classified from *Lloyd's Register of Shipping* according to one of 11 ship types which describe them in terms of their structure or design. These 11 ship types are amalgamated into four broad categories.

Category	*Ship types*
General cargo ships	Container ships
	Conventional cargo ships
	Roll-on/roll-off ships
	Other cargo ships
Tankers	Gas carriers
	Liquid tankers
Bulk carriers	Dry bulk carriers
	Dry/wet bulk carriers
Other ships	Multi-purpose ships
	Passenger ships
	Other ships

Type of service

Ships are also classified according to the type of service they provide. The two types of service for which statistics are shown are:

(a) *liner service*, (according to conference and non-conference) relates specifically to a ship which is operated by a carrier providing services on a specified route on a relatively regular basis;
(b) *other service*, which refers to all ships operating in other than a liner service.

Conference ships—A 'conference' is an association of shipowners which regulates the freight rates and terms and conditions of carriage of goods in any particular trade. Conferences only operate liner services and not charter services. Conference arrangements normally include provisions for sharing the trade, rationalising sailing schedules and pooling arrangements for resources and revenue.

Country of registration

The country of registration or flag of the ship refers to the country in which the ship is registered according to *Lloyd's Register of Shipping*.

Units of quantity

Cargo statistics are recorded in terms of revenue tonnes and gross weight tonnes.

A *revenue tonne* is the unit of quantity predominantly used in the shipping industry. It is the basis on which freight is charged and may be measured by mass (tonnes) or volume (cubic metres). Revenue tonnes statistics are consequently a mix of mass and volume units and should be used with care.

Gross weight is the total weight in tonnes of cargo, excluding the weight of containers, irrespective of the basis on which freight is charged.

Deadweight tonnage (DWT), which is the total weight in tonnes of cargo, stores, fuel, passengers and crew carried by the ship when loaded to its maximum summer loadline, is also used in the following tables.

Container cargo

Statistics of container cargo refer only to cargo shipped in international containers (including flats but not pallets). To provide a standard measure, all statistics relating to containers are expressed in terms of twenty-foot units. A forty-foot container is therefore recorded as 2 twenty-foot equivalent units (or TEUs).

Country of loading or discharge of overseas cargo

In statistics of overseas shipping and cargo, the country of loading or discharge of overseas cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting ship. The countries shown are not necessarily the countries of origin or ultimate destination of cargo because previous or subsequent trans-shipments of cargo are not taken into account. The statistics of cargo classified by the country in which it was loaded or discharged cannot therefore be compared directly with statistics of overseas trade classified by country of origin or consignment.

Trade area

Ports at which ships load or discharge cargo are allocated to their respective countries, which are in turn allocated to trade areas in accordance with the Classification of Trade Areas for Cargo Statistics.

It should be noted that a revised trade area classification became effective on 1 July 1984. Care should therefore be taken when comparing trade area statistics for earlier periods with those published using the revised trade area classification.

Shipping and Air Cargo Commodity Statistics—SACCS

The scope of the statistics

Inward cargo statistics relate to cargo loaded overseas which is discharged from ships and aircraft at Australian ports and in respect of which Customs import documents have been received. Similarly, outward cargo statistics relate to cargo loaded on ships and aircraft at Australian ports for discharge at overseas ports and in respect of which Customs export documents have been received. Details are not included for:

(i) goods of small value imported and exported by parcel post;
(ii) direct transit trade, i.e., goods being trans-shipped or moved through Australia for purposes of transport only;
(iii) migrants' and passengers' effects for which Customs documents are not required;
(iv) certain materials under inter-governmental agreements for defence and similar projects for which Customs documents are not required;
(v) ships and aircraft entering and departing Australia under their own power;
(vi) to the extent that they can be identified, ships and aircraft purchased for use on overseas routes and any subsequent sales made of such vessels and aircraft;
(vii) fish and other sea products landed in Australia and abroad directly from the high seas by Australian ships (such products landed in Australia directly from the high seas by foreign ships are included);
(viii) ships' and aircraft's stores; or
(ix) export consignments where the value of the goods in each transaction was less than $250 for entries lodged prior to 1 July 1986, and less than $500 for entries lodged from that date, and import entries lodged on Informal Clearance Documents (ICDs) for values not exceeding $250. In addition, from 21 October 1985 onwards, ICDs for postal articles valued between $250 and $1,000 are excluded.

Period covered by the statistics

SACCS data are compiled according to the date of arrival at, or departure from, Australian ports of the ship or aircraft concerned. SACCS are therefore not directly comparable to foreign trade statistics which are compiled according to the month in which relevant documents are finalised by ACS and passed to the ABS for further processing.

Commodity classification

Commodities are classified according to the Australian Transport Freight Commodity Classification (ATFCC). The ATFCC is the Australian standard for classifying goods transported by any of the transport modes: sea, rail, road, air or pipeline. It is a four level classification based on the second version of the United Nations Standard International Trade Classification (SITC Rev 2).

Valuation

The recorded value of inward cargo is the free on board (f.o.b.) Customs value. The value of outward cargo is the f.o.b. transactions value of the goods expressed in Australian dollars.

Unit of quantity

SACCS records commodity movements in gross weight tonnes which is the total weight of cargo irrespective of the basis on which the freight is charged. It includes the weight of moisture content, wrappings, crates, boxes and containers (other than standard international containers used for containerised cargo). Gross weight is not available by commodity for inward cargo.

Australian Trading Ships

SUMMARY OF THE AUSTRALIAN TRADING FLEET OF SHIPS 150 GROSS TONNES OR MORE, 30 JUNE 1989

(*Source*: **Department of Transport and Communications**)

Ships	*Number*	*DWT*	*Gross tonnes*
Major Australian fleet*(a)*			
Coastal—			
Australian owned and registered	32	1,268,313	881,986
Australian owned, overseas registered	1	35,244	20,570
Overseas owned, Australian registered	7	78,725	54,492
Overseas owned and registered	3	17,056	10,303
Coastal fleet	*43*	*1,399,338*	*967,351*
Overseas—			
Australian owned and registered	18	1,600,785	964,627
Australian owned, overseas registered	1	41,151	29,223
Overseas owned, Australian registered	13	609,433	458,185
Overseas owned and registered	1	2,925	2,610
Overseas fleet	*33*	*2,254,294*	*1,454,645*
Major Australian fleet	*76*	*3,653,632*	*2,421,996*
Other trading ships			
Australian owned and registered	18	9,868	10,848
Australian trading fleet	**94**	**3,663,500**	**2,432,844**

(a) 2,000 DWT and over.

The above table shows particulars of all Australian trading ships of 150 gross tonnes or more engaged in the regular overseas, interstate or intrastate services at 30 June 1989.

Ships registered in Australia

The following table shows the number of ships registered in Australia at 30 June 1989.

SHIPS REGISTERED IN AUSTRALIA AT 30 JUNE 1989
(*Source*: Department of Transport and Communications)

	Nature of registration					
Location	*Demise chartered (a)*	*Other (b)*	*Government*	*Fishing*	*Pleasure*	*Total*
New South Wales	7	221	4	275	1,299	1,806
Victoria	2	106	6	174	433	721
Queensland	1	263	27	604	855	1,750
Western Australia	5	129	3	378	396	911
South Australia	—	43	4	258	199	504
Tasmania	—	55	4	213	167	439
Northern Territory	—	18	1	64	149	232
Total	**15**	**835**	**49**	**1,966**	**3,498**	**6,363**

(a) A demise chartered ship is a foreign owned ship chartered by way of a charter party to an Australian based operator, who is an Australian national and who under the charter party has whole possession and control of the ship, including the right to appoint the master and crew of the ship. *(b)* Relates to vessels used for commercial purposes.

Harbour Boards and Trusts

For detailed information *see* the individual State *Year Books.*

Overseas Shipping

Ship movements into and out of Australia

The following table shows the movement of ships and cargo to and from overseas countries, for the years 1981–82 to 1986–87

OVERSEAS SHIPPING: SHIP AND CARGO MOVEMENTS

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Arrivals—						
ship details						
ship number	5,839	5,516	6,131	6,904	6,824	6,707
DWT ('000 tonnes)	232,370	223,817	263,614	310,228	307,406	300,348
cargo discharged						
revenue tonnes ('000)	31,300	27,904	28,516	29,778	27,600	26,825
gross weight ('000 tonnes)	25,741	23,028	22,859	23,582	22,055	23,418
Departures—						
ship details						
ship number	5,798	5,706	6,025	6,760	6,622	6,507
DWT ('000 tonnes)	235,635	230,396	267,264	309,152	304,839	296,952
cargo loaded						
revenue tonnes ('000)	176,449	170,429	198,406	225,119	237,446	234,796
gross weight ('000 tonnes)	175,634	169,483	197,041	224,182	234,688	233,747

The following table shows particulars of overseas shipping which arrived at or departed from Australian ports according to the country of registration of ships.

OVERSEAS SHIPPING: SHIP DEPARTURES AND ARRIVALS BY COUNTRY OF REGISTRATION, 1986–87

	Departures		*Arrivals*	
Country of registration	*Ship number*	*DWT ('000 tonnes)*	*Ship number*	*DWT ('000 tonnes)*
Australia	244	12,710	251	12,506
China	340	13,877	340	13,725
Denmark	77	1,275	81	1,329
Germany, Federal Republic of	164	3,057	182	3,141
Greece	278	12,438	291	13,185
Hong Kong	232	12,338	243	12,147
India	90	3,388	89	3,418
Japan	1,206	96,461	1,244	97,196
Korea, Republic of	228	15,880	224	15,776
Liberia	468	21,358	477	21,996
Malaysia	96	2,270	95	2,225
Netherlands	116	1,537	108	1,475
New Zealand	98	1,600	138	2,246
Norway	78	3,593	82	3,667
Panama	1,037	30,066	1,047	29,855
Philippines	340	13,321	335	13,036
Singapore	199	8,203	180	7,319
Sweden	13	384	15	440
Taiwan	149	12,396	154	12,574
United Kingdom	247	9,341	257	9,498
United States of America	13	335	10	244
USSR	156	2,935	161	2,916
Other countries	638	18,188	703	20,431
Total all countries	**6,507**	**296,952**	**6,707**	**300,348**
With cargo	*5,887*	*279,889*	*2,466*	*55,805*
In ballast	*620*	*17,063*	*4,241*	*244,542*

Overseas cargo according to country of registration of ships

The following table shows total overseas cargo, loaded and discharged, according to the country in which the ships were registered.

OVERSEAS CARGO LOADED AND DISCHARGED BY COUNTRY OF REGISTRATION OF SHIPS
('000 revenue tonnes)

	1984–85		*1985–86*		*1986–87*	
Country of registration	*Loaded*	*Discharged*	*Loaded*	*Discharged*	*Loaded*	*Discharged*
Australia	6,875	2,310	7,993	2,177	10,148	1,708
China	8,267	376	10,511	373	10,439	349
Denmark	835	355	947	396	743	561
Germany, Federal Republic of	1,584	1,343	1,206	1,040	1,377	1,191
Greece	12,282	1,253	10,318	1,288	9,688	1,410
Hong Kong	7,059	873	9,513	628	9,494	727
India	868	114	1,744	50	2,689	20
Japan	83,926	3,761	88,694	4,042	86,182	3,220
Korea, Republic of	12,312	330	15,773	747	13,977	384
Liberia	24,155	4,300	17,721	2,671	14,530	3,869
Malaysia	1,864	376	1,942	381	1,576	449
Netherlands	1,223	294	784	294	800	420
New Zealand	530	849	780	1,112	675	701
Norway	5,768	1,294	3,939	888	2,030	906
Panama	18,356	2,720	20,819	3,245	23,286	2,897
Philippines	5,647	789	8,753	811	11,126	1,026
Singapore	4,701	847	5,534	1,242	6,059	1,958
Sweden	606	353	240	229	162	237
Taiwan	7,352	108	10,000	183	11,107	93
United Kingdom	7,237	4,130	6,264	3,873	4,251	2,517
United States of America	51	—	100	14	115	5
USSR	1,797	409	2,359	412	1,782	366
Other countries	11,823	2,593	11,513	1,504	12,562	1,812
Total all ships	**225,119**	**29,778**	**237,446**	**27,600**	**234,796**	**26,825**

Shipping at principal ports

The following two tables show the movement of overseas shipping and cargo at Australian ports during 1986–87. The first provides details of the ships calling at Australian ports and the gross weight of cargo loaded and discharged. The second classifies cargo loaded and discharged in terms of whether or not it was transported in ISO containers.

OVERSEAS SHIP AND CARGO MOVEMENTS AT AUSTRALIAN PORTS, 1986–87

	Departures		*Cargo loaded*	*Arrivals*		*Cargo discharged*
	Ship details			*Ship details*		
Australian port	*Ship calls*	*DWT ('000 tonnes)*	*Gross weight ('000 tonnes)*	*Ship calls*	*DWT ('000 tonnes)*	*Gross weight ('000 tonnes)*
New South Wales—						
Sydney	1,192	28,529	6,352	1,185	27,901	3,028
Botany Bay	504	11,951	443	552	13,340	2,084
Newcastle	765	41,297	31,877	760	40,428	1,334
Port Kembla	244	15,450	9,906	254	16,099	720
Other	51	1,123	895	54	1,186	6
Total	*2,756*	*98,349*	*49,473*	*2,805*	*98,954*	*7,171*
Victoria—						
Melbourne	1,479	28,857	2,776	1,452	28,382	3,181
Geelong	304	9,583	2,923	307	9,615	1,985
Westernport	124	7,193	4,942	124	7,129	23
Other	130	4,289	1,322	130	4,289	207
Total	*2,037*	*49,922*	*11,963*	*2,013*	*49,415*	*5,395*
Queensland—						
Brisbane	965	19,851	4,726	996	20,412	1,293
Gladstone	355	22,716	16,605	353	22,539	912
Hay Point	429	35,272	29,633	430	35,040	—
Townsville	256	4,275	1,556	262	4,335	266
Weipa	87	3,403	2,365	87	3,342	49
Other	422	11,505	8,632	430	11,661	196
Total	*2,514*	*97,021*	*63,517*	*2,558*	*97,329*	*2,715*
South Australia—						
Port Adelaide	405	8,564	1,192	397	8,269	403
Port Lincoln	97	2,725	1,145	99	2,661	102
Port Pirie	74	1,733	729	72	1,658	37
Port Stanvac	46	1,939	443	51	2,307	1,044
Thevenard	51	1,061	693	52	1,008	—
Whyalla	45	1,097	523	47	1,152	223
Other	81	2,997	1,502	82	3,030	29
Total	*799*	*20,115*	*6,227*	*800*	*20,086*	*1,839*
Western Australia—						
Fremantle	1,057	25,445	7,097	1,069	25,549	3,287
Bunbury	172	5,752	3,825	174	5,812	497
Dampier	442	37,521	32,099	451	38,274	245
Geraldton	137	3,868	1,703	131	3,766	75
Port Hedland	408	38,510	32,299	403	37,783	129
Port Walcott	91	12,926	11,314	91	12,722	20
Yampi Sound	37	3,154	2,358	38	3,295	1
Other	227	5,544	2,611	223	5,374	226
Total	*2,571*	*132,720*	*93,308*	*2,580*	*132,574*	*4,479*
Tasmania—						
Hobart	178	3,797	598	181	3,870	231
Launceston	170	5,080	2,321	176	5,124	161
Port Latta	21	1,754	1,408	20	1,647	34
Other	156	3,551	762	153	3,462	84
Total	*525*	*14,182*	*5,089*	*530*	*14,102*	*509*
Northern Territory—						
Darwin	164	2,693	445	151	2,348	543
Other	158	5,471	3,724	159	5,398	766
Total	*322*	*8,164*	*4,169*	*310*	*7,746*	*1,309*
Total all ports	**11,524**	**420,473**	**233,747**	**11,596**	**420,206**	**23,418**

OVERSEAS CONTAINER AND NON-CONTAINER CARGO LOADED AND DISCHARGED AT AUSTRALIAN PORTS, 1986–87
('000 revenue tonnes)

	Loaded			*Discharged*		
Australian port	*Container cargo*	*Other cargo*	*Total*	*Container cargo*	*Other cargo*	*Total*
New South Wales—						
Sydney	783	5,775	6,558	1,340	2,594	3,934
Botany Bay	390	128	518	1,101	1,489	2,590
Newcastle	385	31,542	31,927	4	1,330	1,334
Port Kembla	13	9,913	9,926	2	726	728
Other	—	895	895	1	6	7
Total	*1,571*	*48,253*	*49,824*	*2,449*	*6,144*	*8,594*
Victoria—						
Melbourne	2,289	794	3,083	2,573	1,637	4,210
Geelong	39	2,888	2,927	10	1,978	1,987
Westernport	—	4,942	4,942	—	23	23
Other	—	1,322	1,322	1	207	207
Total	*2,328*	*9,946*	*12,274*	*2,583*	*3,844*	*6,427*
Queensland—						
Brisbane	860	4,029	4,889	425	1,197	1,622
Gladstone	—	16,605	16,605	1	911	912
Hay Point	—	29,633	29,633	—	—	—
Townsville	34	1,526	1,560	8	285	293
Weipa	—	2,365	2,365	—	49	49
Other	24	8,628	8,652	1	195	196
Total	*917*	*62,786*	*63,703*	*434*	*2,638*	*3,072*
South Australia—						
Port Adelaide	255	1,001	1,257	96	486	583
Port Lincoln	—	1,145	1,145	—	102	102
Port Pirie	—	729	729	—	37	37
Port Stanvac	—	443	443	—	1,044	1,044
Thevenard	—	693	693	—	—	—
Whyalla	—	525	525	—	223	223
Other	—	1,502	1,502	—	29	29
Total	*255*	*6,039*	*6,294*	*96*	*1,922*	*2,018*
Western Australia—						
Fremantle	654	6,543	7,197	571	3,065	3,637
Bunbury	3	3,846	3,848	—	500	500
Dampier	—	32,099	32,099	16	243	258
Geraldton	—	1,703	1,703	—	75	75
Port Hedland	—	32,299	32,299	2	131	133
Port Walcott	1	11,314	11,315	—	20	20
Yampi Sound	—	2,358	2,358	—	1	1
Other	5	2,606	2,611	1	226	226
Total	*662*	*92,769*	*93,430*	*589*	*4,260*	*4,849*
Tasmania—						
Hobart	80	522	602	2	236	239
Launceston	41	2,281	2,322	9	158	167
Port Latta	—	1,408	1,408	—	34	34
Other	99	666	765	20	69	89
Total	*219*	*4,877*	*5,097*	*32*	*497*	*529*
Northern Territory—						
Darwin	9	440	449	9	561	570
Other	—	3,724	3,724	—	766	766
Total	*9*	*4,164*	*4,173*	*9*	*1,327*	*1,336*
Total all ports	**5,962**	**228,834**	**234,796**	**6,192**	**20,632**	**26,825**

Overseas cargo according to trade area and ship type

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the various trade areas of the world and by ship type.

OVERSEAS CARGO BY TRADE AREA OF PORT OF DISCHARGE/LOADING BY SHIP TYPE, 1986–87

('000 revenue tonnes)

Trade area	*General cargo ships*	*Tankers*	*Bulk carriers*	*Other ships*	*All ships*
OUTWARD CARGO					
Europe	1,328	93	45,501	20	46,941
East Asia	1,276	335	27,832	35	29,478
Japan and North Asia	2,410	2,188	111,081	41	115,720
North America—East Coast	299	1,185	3,225	230	4,940
North America—West Coast	352	1,572	3,731	96	5,752
Central America and Caribbean	21	—	8	—	29
South America—East Coast	16	36	1,955	—	2,007
South America—West Coast	51	16	424	—	490
Africa—Mediterranean	5	9	2,377	—	2,392
West Africa	19	—	224	—	243
South and East Africa	58	21	276	1	356
Red Sea and Mediterranean Middle East	173	43	2,955	—	3,170
Middle East Gulf	206	2	4,307	—	4,515
West India	91	37	3,022	—	3,150
East India	56	12	765	—	833
South-East Asia	1,346	1,276	3,818	49	6,489
New Zealand	666	341	872	2	1,882
Papua New Guinea and Solomon Islands	409	508	800	5	1,723
Pacific Islands and other countries	223	655	86	—	964
Trade area not available for publication	29	—	3,696	—	3,724
Total outward overseas cargo	**9,036**	**8,328**	**216,954**	**478**	**234,796**
INWARD CARGO					
Europe	1,932	505	148	96	2,682
East Asia	1,176	96	246	—	1,518
Japan and North Asia	1,261	334	2,847	8	4,450
North America—East Coast	619	711	760	5	2,096
North America—West Coast	932	484	1,456	8	2,879
Central America and Caribbean	1	1	20	—	22
South America—East Coast	74	15	25	—	115
South America—West Coast	12	—	9	—	22
Africa—Mediterranean	—	—	12	—	12
West Africa	—	15	66	—	81
South and East Africa	105	15	7	1	128
Red Sea and Mediterranean Middle East	58	625	142	—	824
Middle East Gulf	56	4,785	480	—	5,320
West India	22	143	59	64	288
East India	3	—	—	—	3
South-East Asia	762	2,789	612	97	4,261
New Zealand	717	275	169	1	1,162
Papua New Guinea and Solomon Islands	71	6	3	1	82
Pacific Islands and other countries	23	16	837	6	882
Trade area not available for publication	—	—	—	—	—
Total inward overseas cargo	**7,824**	**10,814**	**7,898**	**289**	**26,825**

Overseas cargo according to trade area and type of service

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the various trade areas of the world and by type of shipping service.

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA BY TRADE AREA OF PORT OF DISCHARGE/LOADING BY TYPE OF SERVICE, 1986–87

('000 revenue tonnes)

	Outward overseas cargo			*Inward overseas cargo*		
	Liner service			*Liner service*		
Trade area	*Conference*	*Non-conference*	*Other ships*	*Conference*	*Non-conference*	*Other ships*
Europe	703	365	45,873	1,259	478	945
East Asia	386	482	28,610	336	645	537
Japan and North Asia	900	420	114,400	487	187	3,775
North America—East Coast	219	249	4,472	382	88	1,626
North America—West Coast	219	267	5,266	423	515	1,942
Central America and Caribbean	17	2	10	1	1	21
South America—East Coast	1	26	1,981	3	13	99
South America—West Coast	—	—	490	1	8	13
Africa—Mediterranean	—	1	2,392	—	—	12
West Africa	—	1	243	—	—	81
South and East Africa	1	31	324	—	56	73
Red Sea and Mediterranean Middle East	81	49	3,040	3	53	769
Middle East Gulf	58	119	4,338	11	1	5,308
West India	47	68	3,035	12	6	269
East India	17	37	779	2	—	1
South-East Asia	698	158	5,633	524	125	3,612
New Zealand	144	459	1,279	131	559	472
Papua New Guinea and Solomon Islands	198	77	1,448	20	11	51
Pacific Islands and other countries	135	37	792	4	13	865
Trade area not available for publication	—	14	3,710	—	—	—
Total overseas cargo	**3,821**	**2,859**	**228,116**	**3,598**	**2,758**	**20,469**

Overseas cargo commodity details

The following three tables classify inward and outward overseas cargo according to the Australian Transport Freight Commodity Classification (ATFCC). The second and third tables also provide details of the type of shipping service by which cargo was transported.

INWARD AND OUTWARD OVERSEAS SEA CARGO: BY SELECTED COMMODITIES, 1985–86
($'000)

ATFCC Division	*Title*	*Inward cargo*	*Outward cargo*
00	Live animals	51	300,762
01	Meat and meat preparations	14,281	2,156,225
02	Dairy products and eggs	80,296	457,281
03	Fish, crustaceans and molluscs and preparations thereof	403,338	489,767
04	Cereals and cereal preparations *(a)*	72,067	2,673,878
05	Fruit and vegetables; sugar cane *(b)*	264,795	498,866
06	Sugar, sugar preparations and honey	27,943	51,696
09	Coffee, tea, cocoa, spices, margarine and miscellaneous edible products and preparations *(a) (b)*	415,896	105,258
11	Beverages, tobacco and manufactures *(a)*	323,455	104,085
21	Hides, skins and furskins, raw *(a)*	1,993	428,324
24	Wood, timber and cork *(a)*	294,103	16,157
25	Pulp and waste paper	164,437	27,644
26	Textile fibres (not wool tops) and wastes (not manufactured into yarn or fabric)	150,168	3,889,010
27	Crude fertilizers and minerals (excluding coal, petroleum and precious stones) *(a) (b)*	214,683	88,679
28	Metalliferous ores and metal scrap *(a)*	39,664	2,953,827
32	Coal, coke and briquettes *(a)*	2,802	5,346,861
33	Petroleum, petroleum products and related materials *(b)*	1,715,347	1,330,670
51	Organic and inorganic chemicals *(a) (b)*	934,480	72,282
53	Dyeing, tanning and colouring materials *(a)*	176,581	32,799
54	Medicinal and pharmaceutical products *(a)*	263,962	43,975
55	Essential oils, perfume materials, toilet, polishing and cleaning preparations *(b)*	182,304	48,832
56	Fertilizers, manufactured	138,089	5,332
58	Plastic materials, artificial resins and cellulose esters and ethers *(a) (b)*	579,969	71,638
59	Explosives and other chemical materials and products *(a) (b)*	366,916	83,973
62	Rubber manufactures, n.e.s.	430,898	39,639
63	Cork and wood manufactures (excluding furniture) *(a) (b)*	158,765	7,009
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard *(b)*	980,767	98,462
65	Textile yarns, fabrics, made-up articles, n.e.s. and related products *(a) (b)*	1,658,328	60,196
66	Non-metallic mineral manufactures, n.e.s. *(a) (b)*	557,517	67,113
67	Iron and steel *(a) (b)*	573,166	538,144
68	Non-ferrous metals *(a) (b)*	129,311	1,378,774
69	Manufactures of metal, n.e.s. *(b)*	863,019	203,894
71	Machinery, equipment, apparatus and appliances *(a) (b)*	7,306,964	836,924
78	Road vehicles and other transport equipment	2,725,493	456,980
82	Furniture and parts thereof	223,310	27,632
84	Articles of apparel and clothing accessories and footwear	705,406	11,817
87	Professional, scientific and controlling apparatus, n.e.s.; photographic apparatus, equipment and supplies; optical goods, n.e.s.; watches and clocks *(b)*	733,854	116,567
89	Printed matter, plastic wares, toys and other miscellaneous manufactured articles *(a) (b)*	1,746,780	127,737
93	Special transactions and commodities not classified by kind	1,294,229	247,494
99	Coins, n.e.s. temporary ships/structures *(c)*	1,082,082	5,254,441
	Other	415,562	397,542
Total all commodities		**28,413,071**	**31,148,189**

(a) Excludes export commodities regarded as confidential. These items are included in Division 99. *(b)* Excludes import commodities regarded as confidential. These items are included in Division 99. *(c)* Includes commodities regarded as confidential.

INWARD OVERSEAS SEA CARGO BY COMMODITY BY TYPE OF SERVICE
($'000)

ATFCC Section and title	*Year ended 30 June*	*Liner Service*		*Other*	*Total*
		Conference	*Non-conference*		
0 Food and live animals *(a)*	1986	752,781	310,869	126,050	1,189,700
	1987	850,058	360,330	122,315	1,332,703
1 Beverages and tobacco *(a)*	1986	162,016	90,991	36,880	289,887
	1987	175,541	119,722	28,192	323,455
2 Crude materials, inedible, except fuels *(a)*	1986	337,118	305,606	345,192	987,915
	1987	401,049	337,512	295,218	1,033,779
3 Mineral fuels, lubricants and related materials *(a)*	1986	22,125	16,816	1,707,105	1,746,047
	1987	35,526	31,394	1,655,349	1,722,268
4 Animal and vegetables oils, fats and waxes *(a)*	1986	31,399	8,686	50,656	90,741
	1987	34,551	11,773	43,174	89,498
5 Chemical and related products, n.e.s. *(a)*	1986	1,130,930	628,311	629,621	2,388,863
	1987	1,352,053	724,936	565,312	2,642,300
6 Manufactured goods classified chiefly by material *(a)*	1986	2,755,513	1,354,252	850,254	4,960,019
	1987	3,113,412	1,674,311	651,388	5,439,111
7 Machinery and transport equipment *(a)*	1986	5,526,850	1,861,316	3,486,775	10,874,942
	1987	5,410,942	2,098,204	2,523,311	10,032,457
8 Miscellaneous manufactured articles *(a)*	1986	1,872,010	961,890	251,369	3,085,268
	1987	2,134,161	1,114,768	160,421	3,409,350
9 Commodities and transactions, n.e.s. *(b)*	1986	1,045,398	349,806	672,150	2,067,354
	1987	1,351,350	451,529	585,271	2,388,149
Total all commodities	**1986**	**13,636,141**	**5,888,544**	**8,156,052**	**27,680,737**
	1987	**14,858,643**	**6,924,478**	**6,629,951**	**28,413,071**

(a) Excludes commodities regarded as confidential. These items are included in Section 9. *(b)* Includes commodities regarded as confidential.

OUTWARD OVERSEAS SEA CARGO BY COMMODITY BY TYPE OF SERVICE
($'000)

ATFCC Section and title	*Year ended 30 June*	*Liner service*		*Other*	*Total*
		Conference	*Non-conference*		
0 Food and live animals *(a)*	1986	2,265,578	494,878	4,279,532	7,039,988
	1987	2,938,248	776,497	3,192,197	6,906,942
1 Beverages and tobacco *(a)*	1986	27,073	11,665	4,908	43,646
	1987	53,159	35,158	15,769	104,085
2 Crude materials, inedible, except fuels *(a)*	1986	2,488,206	1,135,051	3,118,662	6,741,919
	1987	3,191,835	1,492,751	2,840,459	7,525,045
3 Mineral fuels, lubricants and related materials *(a)*	1986	28,779	11,375	6,956,182	6,996,336
	1987	41,170	19,961	6,616,423	6,677,555
4 Animal and vegetables oils, fats and waxes *(a)*	1986	18,516	13,364	46,900	78,779
	1987	13,851	11,095	23,168	48,114
5 Chemical and related products, n.e.s. *(a)*	1986	132,293	100,904	50,103	283,299
	1987	187,205	127,762	43,864	358,831
6 Manufactured goods classified chiefly by material *(a)*	1986	514,531	435,512	671,719	1,621,762
	1987	791,655	599,080	1,050,392	2,441,126
7 Machinery and transport equipment *(a)*	1986	520,913	241,784	94,202	856,899
	1987	741,291	376,468	176,144	1,293,903
8 Miscellaneous manufactured articles *(a)*	1986	155,503	70,400	23,543	249,446
	1987	171,412	94,219	18,124	283,754
9 Commodities and transactions, n.e.s. *(b)*	1986	976,024	487,526	3,899,133	5,362,682
	1987	1,042,328	623,014	3,843,491	5,508,834
Total all commodities	**1986**	**7,127,414**	**3,002,458**	**19,144,884**	**29,274,757**
	1987	**9,172,154**	**4,156,003**	**17,820,032**	**31,148,189**

(a) Excludes commodities regarded as confidential. These items are included in Section 9 *(b)* Includes commodities regarded as confidential.

Coastal Shipping Cargo

The following table shows the gross weight of cargo loaded at an Australian port for discharge at another Australian port. Both interstate and intrastate cargo movements are included. Cargo loaded at, or to be discharged at, an overseas port is excluded.

COASTAL CARGO LOADED AND DISCHARGED AT AUSTRALIAN PORTS, 1987–88
('000 gross weight tonnes)
(*Source*: Department of Transport and Communications)

	Loaded			*Discharged*		
Australian port	*Interstate*	*Intrastate*	*Total*	*Interstate*	*Intrastate*	*Total*
New South Wales—						
Sydney	122	—	122	3,603	758	4,362
Port Kembla	1,379	97	1,467	6,253	71	6,324
Botany Bay	403	279	682	2,606	—	2,606
Other	506	1,329	1,835	1,806	876	2,682
Total	*2,410*	*1,705*	*4,106*	*14,268*	*1,705*	*15,974*
Victoria—						
Melbourne	1,595	—	1,595	2,025	—	2,025
Geelong	1,188	235	1,423	216	—	216
Westernport	6,808	—	6,808	634	—	634
Other	9	125	134	493	360	853
Total	*9,600*	*360*	*9,960*	*3,368*	*360*	*3,728*
Queensland—						
Brisbane	1,215	1,291	2,506	4,736	575	5,311
Gladstone	1,404	541	1,945	160	6,782	6,942
Other	1,041	6,922	7,963	248	1,397	1,645
Total	*3,660*	*8,754*	*12,414*	*5,144*	*8,754*	*13,898*
South Australia—						
Adelaide	460	59	519	570	970	1,540
Port Stanvac	379	—	379	432	707	1,139
Other	2,676	1,893	4,569	1,389	275	1,664
Total	*3,515*	*1,952*	*5,467*	*2,391*	*1,952*	*4,343*
Western Australia—						
Fremantle	876	859	1,735	984	166	1,150
Other	6,734	181	6,915	26	874	900
Total	*7,610*	*1,040*	*8,650*	*1,010*	*1,040*	*2,050*
Tasmania—						
Hobart	435	14	449	978	120	1,098
Burnie	527	120	647	547	14	561
Devonport	412	—	412	373	1	374
Launceston	315	14	329	970	4	974
Other	555	6	561	100	15	115
Total	*2,244*	*154*	*2,398*	*2,968*	*154*	*3,122*
Northern Territory—						
Darwin	2	24	26	190	4	194
Other	303	4	307	4	24	28
Total	*306*	*28*	*333*	*194*	*28*	*222*
Total all ports	**29,345**	**13,993**	**43,328**	**29,343**	**13,993**	**43,337**

RAILWAYS

Government Railways

The six government owned railway systems are operated by the State Rail Authority of New South Wales (SRA), 'V/Line' operated by the State Transport Authority of Victoria, Queensland Government Railways (QR), Western Australian Government Railways Commission (WAGRC), the State Transport Authority of South Australia (STA), and the Australian National Railways Commission (ANRC).

Data contained in the following tables have been compiled from a number of sources. These sources include annual reports of the various rail authorities; data supplied by the Rail Industry Council; and data collected directly by the Australian Bureau of Statistics.

As the Australian National system includes routes in more than one State, and the Victorian system extends into New South Wales, the system route-kilometres shown in the following table do not represent route-kilometres within each State and Territory.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY SYSTEM
(kilometres)

30 June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Australian National*	*Aust.*
1983	9,883	5,815	9,979	152	5,610	7,647	39,086
1984	9,884	5,783	10,231	152	5,623	7,450	39,123
1985	9,908	5,748	10,231	153	5,563	7,465	39,068
1986	9,909	5,372	10,244	153	5,553	7,333	38,544
1987	9,909	5,257	10,210	149	5,553	7,315	38,393
1988	9,917	5,150	10,089	127	5,553	7,187	38,023

Summary of Operations

Particulars of train-kilometres, passenger journeys, freight-tonnes carried, and freight tonne-kilometres included in this section refer only to operations for which revenue is received.

GOVERNMENT RAILWAYS: SUMMARY OF OPERATION, SYSTEMS, 1987–88

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Australian National*	*Aust.*
Train-kilometres ('000) *(a) (b)*—							
Suburban passenger	29,272	13,800	6,174	n.a.	2,314	—	n.a.
Country passenger	10,298	7,045	3,565	—	1,091	2,477	24,476
Goods *(b)*	22,384	6,590	24,361	—	6,060	8,203	67,598
Total	**61,954**	**27,435**	**34,100**	**n.a.**	**9,465**	**10,680**	**n.a.**
Passenger journeys ('000) *(c)*—							
Suburban	242,589	88,609	44,953	8,651	9,564	—	394,366
Country *(d)*	3,950	5,478	1,275	—	288	353	11,344
Total	**246,539**	**94,087**	**46,228**	**8,651**	**9,852**	**353**	**405,710**
Freight—							
Tonnes carried ('000) *(d)*	54,412	10,901	74,893	—	21,946	11,269	173,421
Net tonne-kilometres (million) *(e)*	14,212	3,351	20,676	—	4,203	7,622	50,024

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purposes. *(b)* Includes mixed train-kilometres. *(c)* Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys. *(d)* Inter-system traffic is included in the total for each system over which it passes. *(e)* One tonne carried one kilometre.

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES (a)

('000 kilometres)

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Australian National*	*Aust.*
1982–83	61,507	30,166	30,885	3,894	10,560	10,795	147,806
1983–84	61,659	30,702	33,303	3,697	10,333	10,238	149,932
1984–85	66,025	30,794	34,293	n.a.	11,098	11,306	n.a.
1985–86	62,237	29,809	35,116	n.a.	10,364	10,513	n.a.
1986–87	n.a.	28,399	35,051	n.a.	9,436	10,581	n.a.
1987–88	61,954	27,435	34,099	n.a.	9,465	10,680	n.a.

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purpose.

GOVERNMENT RAILWAYS: FREIGHT CARRIED, NET TONNE-KILOMETRES, AND FREIGHT EARNINGS, SYSTEMS

Year	*NSW*	*Vic.*	*Qld*	*WA*	*Australian National*	*Aust.*
			FREIGHT CARRIED ('000 tonnes)			
1982–83	41,350	8,570	43,706	19,791	10,676	124,093
1983–84	46,594	10,486	53,150	19,870	12,083	142,183
1984–85	47,800	11,892	65,452	22,085	12,870	160,099
1985–86	53,800	10,516	73,599	20,877	13,049	171,841
1986–87	54,747	10,597	75,169	21,264	12,900	174,530
1987–88	54,412	10,901	74,893	21,946	11,269	173,421
			NET TONNE-KILOMETRES (million)			
1982–83	9,117	2,468	13,177	4,384	5,348	34,494
1983–84	11,131	3,111	15,391	3,903	5,912	39,448
1984–85	12,393	3,543	18,438	4,328	6,270	44,972
1985–86	r13,415	3,094	20,450	4,005	7,081	48,370
1986–87	13,540	3,531	20,871	4,062	6,873	48,877
1987–88	14,212	3,351	20,676	4,203	7,165	49,607
			FREIGHT EARNINGS ($'000)			
1982–83	452,626	108,803	508,223	183,632	161,480	1,414,764
1983–84	559,876	160,841	669,362	180,439	192,223	1,762,741
1984–85	641,100	182,259	828,926	209,627	213,698	2,075,610
1985–86	736,795	168,641	905,494	200,974	237,345	2,249,249
1986–87	739,250	174,700	960,950	200,731	238,097	2,313,728
1987–88	767,820	176,161	910,409	203,790	236,782	2,294,962

GOVERNMENT RAILWAYS: GROSS EARNINGS, SYSTEMS *(a)*

($ million)

Year	*NSW*	*Vic.(b)*	*Qld*	*SA (c)*	*WA*	*Australian National (d)*	*Aust.*
1982–83	694.8	248.1	549.9	6.3	229.4	193.9	1,922.4
1983–84	823.1	301.7	718.0	8.1	228.3	227.1	2,311.0
1984–85	938.6	343.7	882.5	10.7	258.3	252.5	2,699.4
1985–86	1,082.4	326.7	966.0	14.6	256.0	283.3	2,943.3
1986–87	1,121.2	384.2	1,028.9	14.4	258.2	283.3	3,187.3
1987–88	*(a)1,248.9*	384.2	991.4	15.4	266.3	262.0	3,168.2

(a) Excludes Commonwealth contributions and superannuation reserve. *(b)* Includes operating revenue for VLINE and fares for VLINE and MTA. *(c)* Includes urban rail operations only. *(d)* Includes Tasmania.

Non-government Railways

The Australian non-government railways covered in this section are those which operate outside industrial estates, harbour precincts, mines and quarries with a route distance exceeding two kilometres.

The figures in the following table have been compiled from information supplied to the Bureau of Transport and Communications Economics (BTCE) by the various railway operators. All operators provided details of tonnes carried and most provided details of tonne-kilometres performed. In a few cases, the tonne-kilometre figures have been estimated by the BTCE using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS

Year	*Iron ore railways*	*Sugar tramways*	*Coal railways (a)*	*Other non-government railways*	*Total (a)*
		TONNES CARRIED (million)			
1982–83	78.2	20.9	7.1	8.0	114.1
1983–84	71.5	21.6	7.0	10.9	111.0
1984–85	86.9	24.0	7.9	11.1	129.9
1985–86	86.8	21.6	8.1	10.3	126.8
1986–87	91.1	23.1	7.8	11.1	133.1
1987–88	94.6	23.6	8.5	10.7	137.3
		TONNE-KILOMETRES (million)			
1982–83	24,432	355	86	171	25,045
1983–84	22,646	366	85	226	23,324
1984–85	27,649	408	98	223	28,378
1985–86	28,517	368	116	201	29,202
1986–87	29,552	393	116	220	30,281
1987–88	30,218	425	126	230	30,998

(a) Includes transfers to and from government railways.

TRAM, BUS, AND FERRY SERVICES

Trams

At 30 June 1988, tram services were in operation in Melbourne and in Adelaide. Regular tram services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972. However, services are operated in both cities, on an irregular basis, but generally during holiday periods, as a tourist attraction.

In many parts of Australia, private lines used for special purposes in connection with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways, and the traffic on them has nothing in common with that of the street tram used for the conveyance of passengers.

Buses

Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services which are located in all capital cities and Newcastle, New South Wales; Rockhampton, Queensland; Launceston and Burnie, Tasmania; and for country road services operated by the Victorian Railways, the State Rail Authority of New South Wales, the Western Australian Government Railways, and the Australian National Railways.

Ferries

Ferry passenger services are operated in the following States: New South Wales, at Sydney, Newcastle and various other waterways; Western Australia, on the Swan River at

Perth; Tasmania, on the Mersey River at Devonport and on the Derwent River at Hobart; and Queensland, on the Brisbane River at Brisbane. Control is exercised by both government authorities and private operators.

Government and municipal tram and bus services

Because of the development in recent years of the various forms of public road transport under the control of single authorities and the gradual replacement of tram services by bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL, STATES AND TERRITORIES, 1987–88

	NSW	*Vic.*	*Qld*	*SA*	*WA(a)*	*Tas.*	*NT*	*ACT*	*Aust.*
Route-kilometres at 30 June									
Tram (kilometres)	..	332	..	11	..	..	..	..	343
Bus (kilometres)	1,237	n.a.	822	1,020	7,556	486	576	1,220	n.a.
Vehicle-kilometres									
Tram ('000)	..	23,800	..	821	..	..	..	..	24,621
Bus ('000)	68,743	n.a.	27,926	39,024	48,619	9,829	2,508	18,038	n.a.
Rolling stock at 30 June									
Tram (number)	..	620	..	21	..	..	..	..	641
Bus (number)	1,646	1,335	617	699	911	262	46	446	5,962
Passenger journeys									
Tram ('000)	..	115,600	..	2,276	..	..	..	..	117,876
Bus ('000)	204,406	n.a.	44,492	47,313	52,269	12,668	2,353	24,100	n.a.
Gross revenue *(b)*									
Tram and bus ($'000)	180,440	n.a.	36,956	66,672	63,235	8,372	1,929	20,730	n.a.
Working expenses *(c)*									
Tram and bus ($'000)	257,861	n.a.	68,695	120,000	n.a.	22,647	5,733	38,997	n.a.
Net revenue									
Tram and bus ($'000)	–77,421	n.a.	–31,739	–53,328	n.a.	–14,275	–3,804	–18,267	n.a.
Employees at 30 June									
Tram and bus (number)	6,079	n.a.	1,616	*(d)*2,487	2,154	557	110	977	n.a.

(a) Excludes operations of Eastern Goldfields Transport Board. *(b)* Excludes government grants. *(c)* Includes provision of reserves for depreciation, etc. where possible. *(d)* Bus and tram crew only.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

	1982–83	*1983–84*	*1984–85(a)*	*1985–86*	*1986–87*	*1987–88*
Route-kilometres at 30 June						
Tram (kilometres)	232	n.a.	340	340	343	343
Bus (kilometres)	13,553	n.a.	n.a.	n.a.	n.a.	n.a.
Vehicle kilometres						
Tram ('000)	24,958	n.a.	24,747	24,778	24,863	24,621
Bus ('000)	212,423	n.a.	252,038	255,753	266,516	*(b)*214,687
Rolling stock at 30 June						
Tram (number)	713	n.a.	683	663	648	641
Bus (number)	5,018	n.a.	5,942	5,918	5,939	5,962
Passenger journeys						
Tram ('000)	n.a.	n.a.	112,071	115,111	115,758	117,876
Bus ('000)	*(b)(c)*325,649	n.a.	454,460	460,281	463,670	*(b)*387,601

(a) Excludes operations of Eastern Goldfields Transport Board in Western Australia. *(b)* Excludes details of metropolitan tram and bus services in South Australia. *(c)* Excludes details of metropolitan tram and bus services in Victoria.

MOTOR VEHICLES

Tables in this section include vehicles owned by private individuals, local government authorities, State governments, and the Commonwealth Government (excluding those belonging to the defence services).

Survey of Motor Vehicle Usage

The triennial Survey of Motor Vehicle Usage (SMVU) is undertaken by the ABS in response to a wide range of users' needs to monitor the details for motor vehicle usage within Australia. Details obtained determine the total distance travelled by vehicles, classified according to area of operations and purpose of travel. Information is also obtained on tonne-kilometres, average load carried, vehicle usage (i.e. business or private), fuel consumption, driver characteristics, bus passengers carried and other important variables.

The statistics are used for many decisions regarding the monitoring, planning and policy issues that affect all Australian motorists.

The 1988 SMVU consisted of some 67,000 vehicles (including for the first time since 1979 details pertaining to buses) selected from State/Territory motor registry files. Preliminary results from this survey were released in July 1989.

The following table, taken from the 1988 SMVU publication, shows that motor vehicles in Australia travelled a total of 153,915 million kilometres. Cars and station wagons travelled 116,640 million kilometres. Of this 21 per cent was for business purposes, a further 26 per cent for travel to and from work and 53 per cent for private purposes. Rigid trucks travelled a total of 7,840 million kilometres, while articulated trucks travelled 3,836 million kilometres in total.

The standard errors (SE %) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE AND PURPOSE OF TRAVEL AUSTRALIA, TWELVE MONTHS ENDED 30 SEPTEMBER 1988

	Laden business		*Unladen business*		*Total business (a)*		*To and from work paid and unpaid*		*Private*		*Total*	
Type of vehicle	*Million kilo-metres*	*SE %*	*Million kilo-metres*	*SE %*	*Million kilo-metres*	*SE %*	*Million kilo-metres*	*SE %*	*Million kilo-metres*	*SE %*	*Million kilo-metres*	*SE %*
Cars and station wagons	..	..	..	..	24,761.9	2	29,743.4	2	62,134.5	1	116,639.8	1
Motor cycles	..	..	..	..	195.2	10	696.5	4	1,032.3	5	1,924.0	3
Utilities and panel vans	9,834.0	3	3,284.7	4	13,333.6	3	3,470.9	4	5,177.1	4	21,981.6	2
Rigid trucks	5,441.5	2	1,857.6	3	7,299.1	2	280.6	7	260.3	8	7,839.9	2
Articulated trucks	2,892.4	1	932.2	1	3,824.6	1	10.0	8	1.2	15	3,835.7	1
Non freight-carrying trucks	..	..	..	..	237.1	5	13.9	69	10.1	48	261.1	7
Buses	..	..	..	..	1,409.2	3	7.7	18	15.9	28	1,432.8	3
Total	**18,167.9**	**2**	**6,074.5**	**3**	**51,060.5**	**1**	**34,223.0**	**2**	**68,631.4**	**1**	**153,914.9**	**1**

(a) Includes the total kilometres travelled for business purposes of cars, station wagons, motor cycles and utilities and panel vans predominantly used for private purposes. The dissection of business travel into laden/unladen was not sought for these vehicles.

The following table relates the State or Territory of vehicle registrations to the area vehicles actually operated in. For vehicles registered in New South Wales, 86 per cent of the tonne-kilometres travelled were within the State, whereas for the ACT 62 per cent was for Interstate travel.

TOTAL ANNUAL TONNE-KILOMETRES *(a)* BY AREA OF OPERATION: STATE/TERRITORY OF REGISTRATION, TWELVE MONTHS ENDED 30 SEPTEMBER 1988

	Area of operation											
	Capital city(b)		*Provincial urban*		*Other areas of State or Territory*		*Total within State of registration*		*Interstate*		*Australia*	
State of registration	*Million tonne-km*	*SE %*	*Million tonne-km*	*SE %*	*Million tonne-km*	*SE %*	*Million tonne-km*	*SE %*	*Million tonne-km*	*SE %*	*Million tonne-km*	*SE %*
New South Wales	7,741.4	5	3,194.9	4	10,546.9	2	21,483.2	3	3,443.7	3	24,926.9	2
Victoria	6,927.9	4	1,677.1	7	8,089.4	4	16,694.5	2	6,190.3	4	22,884.8	2
Queensland	2,797.7	3	2,631.3	4	4,750.7	3	10,179.7	2	3,154.0	4	13,333.8	2
South Australia	1,631.4	5	..	..	3,725.4	5	5,356.8	3	3,056.3	5	8,413.0	3
Western Australia	2,504.7	4	..	..	7,120.9	8	9,625.7	6	536.4	13	10,162.1	6
Tasmania	490.1	10	914.1	6	1,078.3	8	2,482.5	4	40.4	44	2,522.8	4
Northern Territory	262.6	21	..	..	1,727.9	7	1,990.5	6	696.6	15	2,687.0	6
Australian Capital Territory	226.0	7	..	..	..	..	226.0	7	372.3	6	598.3	5
Australia	**22,581.9**	**2**	**8,417.4**	**3**	**37,039.6**	**2**	**68,038.8**	**1**	**17,490.1**	**2**	**85,528.8**	**1**

(a) Total annual tonne-kilometres is the product of reported average load and total business kilometres travelled while laden, for each vehicle. *(b)* Includes all of ACT for ACT registered vehicles.

Motor vehicles on register

Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971, 1976, 1979, 1982, 1985 and 1988. At these census dates considerably more information concerning the particulars shown in the tables following is available. Summary details of motor vehicles on the register are compiled as at 30 June each year from information made available by the various motor vehicle registration authorities in the States and Territories. Figures from the censuses differ from the corresponding year's figures compiled for the annual vehicles on register series. These inconsistencies result from different dates of recording and because, for some States and Territories, the annual figures include vehicles where the registration has lapsed but the details have not been removed from the register, whereas the census excludes such vehicles.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1988
('000)

			Trucks					
State or Territory	*Motor cars and station wagons*	*Utilities and panel vans*	*Rigid*	*Articulated*	*Non-freight-carrying*	*Buses*	*Motor cycles*	*Total (a)*
New South Wales	2,258.7	390.0	171.8	14.9	14.2	54.1	89.9	2,993.6
Victoria	2,042.8	196.0	205.1	13.7	13.4	14.3	70.8	2,556.0
Queensland	1,131.1	297.7	53.8	8.4	5.4	10.5	60.4	1,567.2
South Australia	681.5	90.0	48.7	4.1	7.4	3.0	34.4	869.1
Western Australia	679.1	136.7	74.5	5.1	8.7	7.5	35.4	947.0
Tasmania	211.0	43.2	17.1	1.6	3.2	1.9	6.4	284.3
Northern Territory	35.7	18.2	1.7	1.0	0.3	0.7	3.1	60.7
Australian Capital Territory	118.9	11.7	3.7	0.3	0.7	1.2	3.7	140.2
Australia	**7,158.8**	**1,183.5**	**576.3**	**48.9**	**53.4**	**93.2**	**304.0**	**9,418.0**

(a) Excludes tractors, plant and equipment, caravans and trailers.

MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE, AUSTRALIA ('000)

30 June	*Motor cars and station wagons*	*Utilities, trucks, panel vans, other truck type vehicles and buses*	*Total (excludes motor cycles)*	*Motor cycles*
1984	6,636.2	1,798.2	8,434.4	398.4
1985	6,842.5	1,886.6	8,729.1	389.2
1986	6,985.4	1,930.7	8,916.0	374.5
1987	7,072.8	1,949.8	9,022.7	351.0
1988	7,243.6	1,977.6	9,221.1	323.3
1989	7,442.2	2,047.3	9,489.5	n.a.

MOTOR VEHICLES (a) ON REGISTER PER 1,000 OF POPULATION STATES AND TERRITORIES

30 June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1984	509.3	554.1	574.2	555.8	574.0	571.1	453.9	486.1	542.2
1985	520.7	571.1	573.7	572.0	589.4	588.0	467.4	488.8	553.9
1986	526.0	575.1	574.3	582.5	590.7	596.8	478.1	483.2	558.2
1987	522.3	581.0	562.6	575.5	582.0	598.1	459.7	497.3	555.3
1988	523.8	589.8	568.0	580.3	587.4	607.2	440.5	498.5	559.9
1989	532.7	583.3	574.9	584.9	597.0	617.0	465.8	512.3	564.6

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

Drivers' and riders' licences

At 30 June 1989, the numbers of licences in force to drive motor vehicles or ride motor cycles respectively were: New South Wales—3,589,794 and 323,946; Victoria—2,650,700 and 140,612; Queensland—1,385,793 and 326,938; Western Australia—838,201 and 124,357; South Australia—883,652 and 141,663; Tasmania—277,374 and 333; Northern Territory—73,302 and 20,206; Australian Capital Territory—172,402 and 20,321.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type of vehicle in preliminary monthly publications, and by type and make of vehicle in monthly and annual publications of motor vehicle registrations.

In these statistics 'registrations' means registrations processed by the motor vehicle registration authorities in the States and Territories during the period.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

State or Territory	*Motor cars and station wagons*	*Utilities*	*Panel vans*	*Trucks*		*Other truck type vehicles (a)*	*Buses*	*Total (excludes motor cycles)*	*Motor cycles*
				Rigid	*Articu-lated*				
1988–89									
NSW	156,467	13,357	18,296	12,561	1,259	519	4,113	206,572	6,081
Vic.	119,216	6,717	1,171	12,320	930	426	714	141,494	4,219
Qld	74,731	13,807	3,318	3,070	706	304	729	96,665	3,922
SA	31,920	2,649	1,462	2,017	277	247	164	38,736	1,364
WA	44,100	4,578	2,798	5,766	256	95	656	58,249	2,522
Tas.	10,009	1,385	471	802	103	47	98	12,915	369
NT	3,511	1,246	181	114	116	24	101	5,293	415
ACT	7,957	521	373	323	21	6	96	9,297	184
Aust.	**447,911**	**44,260**	**28,070**	**36,973**	**3,668**	**1,668**	**6,671**	**569,221**	**19,076**

For footnotes *see* end of table.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE—*continued*

State or Territory	*Motor cars and station wagons*	*Utilities*	*Panel vans*	*Trucks*		*Other truck type vehicles (a)*	*Buses*	*Total (excludes motor cycles)*	*Motor cycles*
				Rigid	*Articulated*				
1987–88	384,204	29,820	18,295	28,592	2,812	1,602	5,495	470,820	18,532
1986–87	376,080	32,485	20,143	28,693	3,149	1,664	6,587	468,801	23,199
1985–86	476,488	46,499	33,138	39,033	4,029	2,159	10,868	612,214	35,906
1984–85	510,893	54,507	45,582	44,422	3,627	1,952	13,847	674,830	45,879
1983–84	461,018	46,140	(*b*)46,779	33,397	2,581	1,630	(*b*)12,169	603,714	46,684
1982–83	453,523	43,682	52,364	31,514	2,426	1,834	4,680	590,023	61,061

(*a*) Non-freight carrying vehicles. (*b*) From August 1983 in NSW, the body–type classification applied by the registration authority for small bus–type vehicles changed from panel vans to buses.

Road Traffic Accidents

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES (a) (ADMISSIONS TO HOSPITALS): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1987

State or Territory	*Number of accidents*	*Persons killed*	*Persons injured*	*Per 100,000 of mean population*			*Per 10,000 motor vehicles registered (b)*		
				Number of accidents	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*
NSW	7,882	959	8,787	141.4	17.1	156.5	25.9	3.2	28.9
Vic.	8,246	705	9,892	197.0	16.8	235.0	32.6	2.8	39.1
Qld	3,432	442	3,986	129.5	16.5	148.9	21.8	2.8	25.3
SA	2,406	256	2,912	173.3	18.4	208.8	28.8	3.1	34.9
WA	2,236	213	2,634	151.2	14.2	175.6	24.7	2.4	29.1
Tas.	651	77	783	145.6	17.2	176.1	23.7	2.8	28.5
NT	439	84	508	282.1	53.6	324.0	57.0	4.7	66.0
ACT	208	36	196	79.2	13.5	73.6	15.5	2.7	14.6
Aust.	**25,500**	**2,772**	**29,698**	**158.0**	**17.0**	**182.6**	**27.2**	**3.0**	**31.7**

(*a*) Accidents reported to the police or other relevant authority which occurred in public thoroughfares and which resulted in death within thirty days or personal injury to the extent that the injured person was admitted to hospital. (*b*) Number of motor vehicles (excluding tractors, plant and equipment) on register at 30 June 1987.

ROAD TRAFFIC ACCIDENTS INVOLVING FATALITIES

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Accidents involving fatalities—									
1983	877	610	437	235	191	63	45	27	2,485
1984	910	584	448	205	203	77	45	35	2,507
1985	954	605	452	239	219	69	59	30	2,627
1986	908	610	421	259	208	78	63	30	2,577
1987	858	626	400	230	193	67	80	33	2,487
1988p	912	615	483	204	199	68	46	32	2,559
Persons killed—									
1983	966	664	510	265	203	70	49	28	2,755
1984	1,037	657	505	232	220	83	50	37	2,821
1985	1,067	683	502	268	243	78	67	33	2,941
1986	1,029	668	481	288	228	91	71	32	2,888
1987	959	705	442	256	213	77	84	36	2,772
1988p	1,037	701	539	222	229	75	51	32	2,886

ROADS

Summary of roads used for general traffic

Proclaimed or declared roads

The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1988. The central road authority in each State assumes responsibility under the Act for the whole or a proportion of the cost of construction and maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points: availability of funds; whether the road is, or will be, within one of several classes of main trunk routes; the value of the roads as connecting links between centres of population or business; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes (e.g. insufficiency of funds, labour or materials), construction or maintenance may not keep pace with gazettal of roads, and, therefore, the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, STATES, 30 JUNE 1988
(kilometres)

Class of road	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust.*
State highways and freeways	10,397	7,537	10,417	—	7,949	1,919	38,219
Trunk roads		—	225	12,449	—	—	n.a.
Ordinary main roads	(a)25,124	14,793	8,224	—	7,460	1,259	n.a.
Total main roads	*35,521*	*22,330*	*18,866*	*12,449*	*15,409*	*3,178*	*107,753*
Secondary roads	n.a.	n.a.	6,373	—	8,645	296	n.a.
Development roads	n.a.	n.a.	8,712	—	—	45	n.a.
Tourist roads	n.a.	n.a.	—	—	—	211	n.a.
Other roads	n.a.	n.a.	—	—	—	—	n.a.
Total other roads	*n.a.*	*n.a.*	*15,085*	—	*8,645*	*552*	*n.a.*
Total	**35,521**	**22,330**	**33,951**	**12,449**	**24,054**	**3,730**	**107,753**

(a) A combination of trunk and ordinary main roads.

Total roads

The following table represents an attempt to classify all the roads open for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

ALL ROADS OPEN FOR GENERAL TRAFFIC LENGTHS, STATES AND TERRITORIES, 30 JUNE 1988
(kilometres)

Surface of roads	*NSW(a)(b)*	*Vic.(c)*	*Qld*	*SA*	*WA(d)*	*Tas.(e)*	*NT(f)*	*ACT*	*Aust.*
Bitumen or concrete	77,041	n.a.	56,700	23,474	41,193	9,236	5,649	2,445	n.a.
Gravel, crushed stone or other improved surface	64,979	n.a.	44,397	—	40,613	13,203	5,808	170	n.a.
Formed only	34,953	n.a.	51,855	72,505	40,262	271	4,507	—	n.a.
Cleared only	19,207	n.a.	16,637	—	19,889	176	4,148	—	n.a.
Total	**196,180**	**n.a.**	**169,589**	**95,979**	**141,957**	**22,886**	**20,112**	**2,615**	**n.a.**

(a) Excludes roads designated but not trafficable. Excludes Lord Howe Island and the unincorporated area of the Western Division. *(b)* Figures as at 31 December 1986. *(c)* Excludes roads coming under the responsibility of the State Electricity Commission and Forests Commission. *(d)* Excludes Forests Department roads. *(e)* Forestry roads have been reclassified from cleared only to gravel. *(f)* Excludes roads in towns and Local Government Areas.

AUSTROADS

AUSTROADS, the national association of Australian Road Authorities, was established in July 1989 to replace the National Association of Australian State Road Authorities (NAASRA) which was established in 1934.

The present members of AUSTROADS are: the Roads and Traffic Authority, New South Wales; Vic Roads, Victoria; Main Roads Department, Queensland; Main Roads Department, Western Australia; Department of Road Transport, South Australia; Department of Roads and Transport, Tasmania; Department of Transport and Works, Northern Territory; Australian Capital Territory Administration and the Commonwealth Department of Transport and Communications.

AUSTROADS mission is 'to pursue the effective management and use of the nation's roads as part of the Australian transport system, by the development and promotion of national policies and practices'.

AUSTROADS maintains a national perspective and provides strategic direction for the development, management and use of Australia's road system, involving consultation and discussion with peak bodies that have a stake in the road industry. It provides a forum which enables a national approach to the effective development and management of the Australian road system. This results in the coordination of road research, preparation of road and bridge design standards, improvements in operating practices and reporting on the current status of the road network.

The operating structure is based on four key programs:

- **Road and Road Transport Policy**—develops policy proposals addressing national road issues, e.g. major road issues, intermodal issues, environment, national social and economic developmental role of roads in land transport policy;
- **Road Use Management**—contributes to the safe and efficient use of roads, e.g. registration and licensing, road safety, traffic management, and freight industry policy;
- **Business Efficiency**—improves efficiency and effectiveness in the management and development of roads; and
- **Road Technology**—develops national standards and transfers technology, harmonises standards, and promotes international cooperation.

These programs are outcome oriented and are regularly evaluated to determine how effectively they meet the objectives of AUSTROADS.

The National Office arranges publication of policies and standards which are widely used by road authorities, local government, consultants and universities.

AUSTROADS cooperates with Standards Australia on the preparation of national standards, provides direction for road research, including research by the Australian Road Research Board and is a member of the Permanent International Association of Road Congress (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board—ARRB

The Australian Road Research Board is a non profit-making company founded in 1960 by NAASRA, and is located at Vermont in Victoria. It is financed mainly by Federal and State Government Road Authorities whose permanent heads, along with a representative of the Australian Council of Local Government Associations, make up ARRB's Board of Directors. The Executive Director, a full-time employee and member of the Board, is responsible for administering the Director's policies.

The ARRB regularly undertakes and sponsors road and road transport research over a comprehensive range of subjects and disseminates results to appropriate organisations, engineers and scientists involved in the design, location, construction, upkeep and use of roads.

The ARRB disseminates road research information through its major biennial conferences and regular symposia, seminars and workshops and through its publications which include the ARRB Conference Proceedings, a quarterly journal *Australian Road Research*, symposium and workshop papers and various reports and technical manuals arising out of its many research projects. ARRB also maintains a unique library of road literature and operates a computer-based information service which abstracts and indexes road-related literature and research in progress. In 1987 the Information on Roads (INROADS) data base was made publicly accessible on CSIRO's AUSTRALIS system. The INROADS data base lists all ARRB publications from 1960, significant Australian road-related literature from 1977, publications catalogued for the ARRB Library, including some retrospective conversion of a card catalogue from 1984, and an annual update of current research in progress. INROADS supersedes the ARRD and ROAD data bases.

The ARRB acts as the Australian member of the Organisation for Economic Co-operation and Development's International Road Research Documentation (IRRD) system, contributing information on Australian literature and projects. IRRD information from all member countries is available to Australians through ARRB's computer search services. ARRB also maintains close contacts with road research organisations in other countries.

AIR TRANSPORT

The Commonwealth imposes safety and operational controls on the Australian aviation industry under the *Civil Aviation Act 1988* and the Civil Aviation Regulations. Under this legislation, a central Commonwealth agency, the Civil Aviation Authority, was established with effect from 1 July 1988 and vested with sole responsibility for the administration and enforcement of aviation safety within Australia. The Bureau of Air Safety Investigation, which is directly responsible to the Minister and performs a safety audit function, remains within the Department of Transport and Communications.

In addition, the Commonwealth imposes a range of economic regulatory controls administered by the Department of Transport and Communications. These controls cover such matters as the import and export of aircraft, the negotiation of international air transport agreements, the approval of international fares and freight rates, and the operation of scheduled passenger air services across State or Territory boundaries. Fares charged for the carriage of passengers on domestic scheduled air services are required to be approved by a Commonwealth statutory body, the Independent Air Fares Committee.

International activity

International organisations

Australia is one of the 161 (as at 30 June 1989) members of the International Civil Aviation Organisation (ICAO). Australia has continued its membership of the (governing) Council since ICAO was established in 1947. Australia is also represented on the 15 member Air Navigation Commission which is responsible for drawing up international standards and procedures for the safety, regularity and efficiency of air navigation. In addition, Australia participates in the Commonwealth Air Transport Council, the South Pacific Regional Civil Aviation Council and the Airport Operators Council International.

International agreements

Australia as at 30 June 1989 had air service agreements with 28 countries. These agreements have full treaty status. Australia also had 6 air service arrangements, with less than treaty status, as of 30 June 1989. Under these agreements or arrangements Qantas, Australia's designated airline, and the foreign carriers of Australia's bilateral partners are entitled to operate services to and/or through each others territories. A commercial agreement exists between Qantas and Air Zimbabwe for services between Australian and Zimbabwe. Qantas and the Government of Bahrain have an arrangement to enable services to operate between Australia and Bahrain. Australia also has an agreement with the USSR relating principally to over-flight rights and charter services.

International scheduled services

At 30 June 1989, 33 international airlines were operating regular scheduled air services to Australia. The carriers (and contracting states) were: Aerolineas Argentinas (Argentina), Air Caledonie International (France), Air China International (People's Republic of China), Air India (India), Air New Zealand (New Zealand), Air Niugini (Papua New Guinea), Air Pacific (Fiji), Air Vanuatu (France), Alitalia (Italy), All Nippon Airways (Japan), British Airways (UK), Canadian Airlines International (Canada), Cathay Pacific Airways (UK), Continental Airlines Inc. (USA), Flying Tiger Line Inc. (USA), Garuda Indonesian Airways (Indonesia), Hawaiian Airlines (USA), Japan Airlines (Japan), JAT (Yugoslavia), KLM-Royal Dutch Airlines (Netherlands), Lauda Air (Austria), Lufthansa German Airlines (Federal Republic of Germany), Malaysian Airline System (Malaysia), Merpati Nusantara Airlines (Indonesia), Olympic Airways (Greece), Philippine Airlines (Philippines), Polynesian Airlines Ltd (Western Samoa), Royal Brunei Airlines (Brunei), Singapore Airlines Ltd (Singapore), Thai Airways International (Thailand), Union de Transports Aeriens (France), and United Airlines (USA). Polynesian Airlines Ltd also operates services on behalf of Cook Islands International (Cook Islands) and Air Pacific operates services on behalf of Solomon Islands Airlines (Solomon Islands) and Qantas.

Qantas, Australia's international airline, operated a fleet of 25 Boeing 747 and 7 Boeing 767 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International non-scheduled services

Australia's passenger and freight charter policies encourage in-bound tourism and freight carriage particularly over routes not served by the scheduled carriers.

International traffic

The table following shows particulars of scheduled international airline traffic during 1987-88 moving into and out of an area which embraces Australia and Norfolk Island. These figures do not include traffic between Australia and Norfolk Island.

AIR TRANSPORT: SCHEDULED INTERNATIONAL AIRLINE TRAFFIC TO AND FROM AUSTRALIA *(a)* 1987–88

Type of traffic	*Number of flights (b)(c)*	*Passengers*	*Freight tonnes*	*Mail tonnes*
Traffic to Australia—				
Qantas Airways Limited	7,238	1,581,895	47,774	1,009
Other airlines	9,781	2,092,245	80,981	6,682
All airlines	**17,019**	**3,674,140**	**128,755**	**7,691**
Traffic from Australia—				
Qantas Airways Limited	7,229	1,503,385	57,406	4,606
Other airlines	9,628	1,996,108	106,522	1,631
All airlines	**16,857**	**3,499,493**	**163,928**	**6,237**

(a) Australia and Norfolk Island. *(b)* Includes Qantas flights using aircraft leased from other airlines. *(c)* Difference between in/out numbers arises because some outward flights are operated as non-scheduled, and thus not counted in above tables.

Statistics covering the operations of Australia's regular overseas services are shown in the following table. These operations include all stages of Qantas flights linking Australia with overseas countries.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S SCHEDULED OVERSEAS SERVICES

		1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Hours flown	number	82,409	83,551	89,952	100,653	117,383	126,851
Kilometres flown	'000	64,898	65,670	71,046	79,050	91,874	98,999
Passengers—							
Embarkations	number	2,101,788	2,189,669	2,449,596	2,671,486	3,052,411	3,612,197
Passenger-kilometres	'000	14,477,756	15,247,801	16,858,595	18,233,088	21,258,519	24,535,745
Freight—							
Tonnes uplifted	tonnes	75,375	84,844	90,357	91,961	110,389	119,202
Tonne-kilometres	'000	485,549	563,268	637,590	691,352	811,627	855,260
Mail—							
Tonnes uplifted	tonnes	4,219	4,410	4,744	4,869	5,327	5,858
Tonne-kilometres	'000	40,058	40,324	43,231	45,370	51,819	57,946

AIR CARGO BY TRADE AREA, INWARD AND OUTWARD OVERSEAS, 1986–87

	Inward cargo		*Outward cargo*	
Trade area	*Gross weight*	*Value*	*Gross weight*	*Value*
	tonnes	$'000	tonnes	$'000
Europe	28,347	2,569,358	7,227	1,053,645
East Asia	9,224	350,016	17,620	767,140
Japan and North Asia	7,617	752,369	15,274	944,632
North America—East Coast	15,034	1,549,266	2,621	273,096
North America—West Coast	11,120	1,393,284	13,054	525,425
Central America and Carribbean	60	9,990	89	3,322
South America—East Coast	633	54,483	30	4,153
South America—West Coast	48	3,298	41	1,817
Africa—Mediterranean	—	8	5	521
West Africa	44	8,447	36	423
South and East Africa	483	317,398	459	17,828
Red Sea and Mediterranean Middle East	175	32,689	985	11,811
Middle East Gulf	22	13,118	17,855	62,409
West India	797	39,902	539	9,787
East India	1,384	37,968	176	31,359
South-East Asia	4,506	306,146	30,101	396,067
New Zealand	21,942	460,271	29,721	645,072
Papua New Guinea and Solomon Islands	264	124,854	2,868	85,118
Pacific Islands and other countries	952	29,276	5,210	62,579
Trade area not specified	16	2,762	8,421	203,882
Total	**102,673**	**8,054,995**	**152,336**	**5,100,705**

The air cargo statistics set out in the above table have been compiled from information contained in import and export documents submitted by importers and exporters, or their agents to the Australian Customs Service as required by the *Customs Act 1901*.

Domestic activity

Economic regulation and deregulation

The Commonwealth Government has announced its intention to deregulate domestic aviation in Australia and to open the nation's interstate air services to free competition, effective from 31 October 1990.

The Commonwealth's regulation on economic grounds of domestic interstate air transport has been conducted through arrangements commonly known as the 'two-airline policy'. Under the policy the operation of regular passenger air services over the main domestic or 'trunk' routes has been restricted generally to the Commonwealth-owned Australian Airlines Ltd and the privately-owned Ansett Airlines of Australia.

The Commonwealth has maintained the policy essentially by using the Customs (Prohibited Imports) Regulations to restrict operators' access to aircraft which could then be used to compete with Australian Airlines or Ansett over the trunk routes. Since 1981, the policy has also been based on the following Commonwealth legislation: the *Airlines Agreement Act 1981*, the *Airlines Equipment Amendment Act 1981* and the *Independent Air Fares Committee Act 1981*.

Effective from 31 October 1990, the Government will withdraw from detailed economic regulation of domestic air fare setting, aircraft imports, capacity controls and route entry, and the above Commonwealth legislation will be repealed. Commonwealth regulation will be replaced by an environment where new entrant airlines will be allowed access to interstate trunk routes, and airlines in general will be free to make their own decisions concerning air fares and capacity on interstate routes.

Customers' interests will be maintained through the application of the Trade Practices Act and scrutiny of the Prices Surveillance Authority which apply to industry generally.

Major airlines

The major airlines providing domestic air services in Australia are the Ansett group, comprising Ansett Airlines of Australia, Air NSW, Ansett WA and Ansett NT; East–West Airlines; Australian Airlines; and IPEC Pty Ltd, a cargo operator. TNT and News Ltd jointly own both the Ansett group and East–West.

At 30 June 1989 the Ansett group's fleet consisted of 7 Airbus A320s, 5 Boeing 767-200s, 7 Boeing 727-200s, 16 Boeing 737-300s, 7 Fokker F28-1000s, 1 Fokker F28-4000, and 10 Fokker F50s.

Australian Airlines operated a fleet of 4 Airbus A300s, 1 Boeing 727-100, 9 Boeing 727-200s, 16 Boeing 737-300s, and 2 McDonnell-Douglas DC9s.

East–West Airlines operated a fleet of 6 Fokker F27 Series, 2 Fokker F28-3000s, and 5 Fokker F28-4000s.

The Interstate Parcel Express Company Australia Pty Ltd, trading as IPEC Aviation, operates cargo airline services using 3 Argosy aircraft and 1 DC9 aircraft.

Commuter services

Some 45 commuter operators provided regular public transport air services to approximately 250 ports in Australia at 30 June 1989.

The aircraft types currently used by commuter operators are predominantly in the 6–9 seat category, such as the Piper PA31 and Cessna 310, 402 and 404 series. Larger types used include Twin Otter, Beech King Air, Metroliner, Embraer Bandeirante, British Aerospace Jetstream 31 and Shorts 330 and 360. During 1988 commuter operators carried an estimated 1.3 million passengers.

General aviation

In addition to scheduled services, there is a wide range of other activities undertaken by the aviation industry, including business flying, aerial work, aerial agriculture, charter, training and private flying. Hours flown by general aviation during 1987–88 were estimated at 1.7 million. Charter operation made up 21.8 per cent of general aviation hours flown in 1987–88, the highest proportion of any activity. Charter operations involve the use of aircraft in operations for the carriage of passengers and cargo for hire or reward which are not scheduled or available to the public. Approximately 650 operators in Australia hold charter licences.

Scheduled domestic airline services

Statistics of all regular domestic airline services are set out in the following table.

AIR TRANSPORT: OPERATIONS OF SCHEDULED DOMESTIC AIRLINE SERVICES AUSTRALIA (a)

		1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89p*
Hours flown	number	242,075	247,158	264,076	276,745	285,335	289,891
Kilometres flown	'000	126,087	132,087	143,081	152,141	160,240	169,896
Passengers—							
Passenger uplifts	number	10,597,651	11,329,708	12,099,813	12,506,706	13,647,756	14,008,631
Passenger-kilometres	'000	9,684,589	10,397,723	11,293,375	12,046,635	13,267,045	13,726,785
Freight—							
Tonnes uplifted	tonnes	149,879	151,226	150,470	135,572	143,324	147,992
Tonne-kilometres	'000	137,819	135,590	138,615	127,429	136,290	139,401
Mail—							
Tonnes uplifted	tonnes	17,571	18,411	18,056	18,726	20,793	21,788
Tonne-kilometres	'000	17,621	18,575	18,182	19,135	20,853	22,636

(a) Includes flights of all domestic airlines, between airports located within Australia and includes flights by East–West Airlines and Airlines of New South Wales between Australia and Norfolk Island.

Airport activity—domestic passengers

The statistics set out in the next table have been compiled by aggregating all domestic airline passenger traffic loaded and unloaded at each airport. They include passengers on flights between Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

SCHEDULED MAJOR AIRLINES PASSENGER UPLIFTS AND DISCHARGES AT PRINCIPAL AUSTRALIAN AIRPORTS

	1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89p*
Sydney	5,501,492	5,900,743	6,330,523	6,660,129	7,374,065	7,541,281
Melbourne	4,550,568	4,851,880	5,155,985	5,313,403	5,827,494	5,999,957
Brisbane	2,554,622	2,684,608	2,799,420	2,973,743	3,312,524	3,581,535
Adelaide	1,684,281	1,762,845	1,824,983	1,704,871	1,833,001	1,876,691
Perth	1,049,567	1,127,184	1,245,409	1,352,214	1,437,035	1,478,055
Canberra	838,175	931,673	990,222	1,006,652	1,087,595	1,073,519
Coolangatta	567,623	630,474	731,145	844,581	1,005,622	1,080,222
Cairns	404,168	426,206	495,434	627,703	777,316	823,262
Hobart	448,549	481,612	493,411	474,345	511,308	519,055
Townsville	388,752	404,463	410,260	415,870	400,439	379,362
Launceston	352,494	390,867	361,797	351,432	351,004	371,327
Darwin	281,032	302,590	334,079	341,835	366,639	388,324

Aerodromes

As at 30 June 1989 there were 429 Commonwealth or licensed aerodromes in Australia and its Territories. Of these, 23 were owned and operated by the Federal Airports Corporation, a Commonwealth statutory authority, and 45 were owned by the

Commonwealth under the control of Commonwealth departments. The remaining 361 were either owned by local authorities or private organisations.

In 1988–89, capital expenditure on Commonwealth civil aerodromes was $9.1 million. Development grants paid to licensed aerodromes under the Aerodrome Local Ownership Plan (ALOP) during the year totalled $24.5 million, of which $13.8 million was for transfer works at Kalgoorlie, Mackay, Mount Gambia and Camooweal where local authorities had accepted full responsibility for the aerodromes. A further $6.3 million was paid for maintenance works at licensed aerodromes participating in the ALOP.

Airway facilities

A total of 567 navigation aids were in service at 31 October 1989. The Civil Aviation Authority maintains and operates a network of 252 non-directional beacons (NDB), 108 Australian Domestic Distance Measuring Equipment (DME-D), 29 International Distance Measuring Equipment (DME-I), 86 VHF omnidirectional range systems (VOR) and 18 instrument landing systems (ILS).

Included in this total are a number of facilities on licensed aerodromes and oil platforms—65 NDBs, 1 DME-D, 4 DME-Is and 2 ILS which are privately owned.

In addition, there are 11 NDBs operated by the Department of Defence and 11 NDBs operated by the Department of Transport and Communications.

There are 32 Air Traffic Control Centres, 42 Flight Service Units and 27 Rescue and Fire Fighting Units in operation throughout Australia.

Air transport registrations and licences in force in Australia

At 30 June 1989 there were 8,437 aircraft registered in Australia. At the same time there were 45,399 current aeroplane pilot licence holders, including 25,436 private pilots, 5,159 commercial pilots, 1,817 senior commercial pilots, 2,497 air transport pilots and 10,490 student pilots.

In addition, there were 2,135 current helicopter pilot licence holders of which 258 were private pilots, 1,017 commercial pilots, 126 senior commercial pilots and 734 student pilots. There were also 11 gyroplane, 73 commercial balloon, 527 flight engineer and 9 navigator licences in force.

Accidents and casualties

AIR TRANSPORT: ACCIDENTS INVOLVING CASUALTIES *(a)*
AUSTRALIA *(b)*

	1983	1984	1985	1986	1987	1988
Number	44	40	31	40	44	53
Persons killed	47	45	43	44	33	63
Persons seriously injured	29	25	27	31	42	32

(a) Accidents involving civil aircraft (including registered gliders) which resulted in death or serious injury. Excludes parachutists and casualties involving non-registered aircraft. *(b)* Excludes accidents outside Australia involving aircraft on the Australian register, includes all accidents to overseas registered aircraft that occur in Australia.

POSTAL, TELECOMMUNICATIONS AND RADIOCOMMUNICATIONS SERVICES

In this section, particulars for the Australian Capital Territory are included with those for New South Wales, and the South Australian figures include particulars for the Northern Territory, unless otherwise indicated.

Australian Postal Corporation

The Australian Postal Commission was established under the *Postal Services Act 1975*. It commenced operations on 1 July 1975 and traded under the name Australia Post.

In 1988–89 the Commission underwent a two stage conversion to Government Corporation Status. The *Postal Services Amendment Act 1988* established a new corporate structure for Australia Post. The *Australian Postal Corporation Act 1989* which marked the second and final change was proclaimed to commence at the beginning of the 1989–90 year.

The Corporation continues to trade under the name Australia Post, however, Australia Post's charter has been redefined. In addition to having a primary function to supply domestic postal services, it now has a subsidiary function to carry on any business or activity relating to postal services either domestically or overseas.

Australia Post provides surface and airmail services within Australia and to and from other countries. Special services provided include express courier, electronic mail, priority paid mail, business reply post, cash-on-delivery, certified mail, freepost, messenger delivery, a security mail service and a number of reduced rate services.

Australia Post operates a money transfer service, sells postal products such as padded post bags, postal stationery and philatelic items, and act as agent on behalf of Commonwealth, State and local government departments and authorities and for private sector principals.

Australia Post is the authority for the issue of postage stamps throughout the Commonwealth of Australia and its external territories.

The following tables give details of Australia Post's financial results, services and operation.

AUSTRALIAN POSTAL CORPORATION: PROFIT AND LOSS
($'000)

Year ended 30 June	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*
Revenue—						
Mail services	971,676	1,080,539	1,186,422	1,370,930	1,501,487	1,644,869
Commission on agency services	90,449	94,547	87,291	83,328	89,803	88,031
Postal money order service	11,632	11,940	11,846	12,384	13,242	16,792
Other revenue	21,993	24,269	39,832	38,440	51,847	61,516
Total	**1,095,750**	**1,211,295**	**1,325,391**	**1,505,082**	**1,656,379**	**1,811,208**
Expenditure—						
Labour and related expenditure	831,600	911,776	973,294	1,049,186	1,131,190	1,251,284
Carriage of mail by contractors	92,984	103,551	109,418	121,183	132,832	151,131
Depreciation and interest	15,299	17,159	22,294	27,744	38,454	39,748
Other expenditure	131,716	154,301	189,530	252,079	298,955	323,186
Total	**1,071,599**	**1,186,787**	**1,294,536**	**1,450,192**	**1,601,431**	**1,765,349**

AUSTRALIAN POSTAL CORPORATION: PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 1989

($'000)

Revenue—	
Mail services	1,644,869
Commission on agency services	88,031
Postal money order service	16,792
Other revenue	61,516
Total	*1,811,208*
Expenditure—	
Labour and related expenditure	1,251,284
Carriage of mail by contractors	151,131
Accommodation	79,334
Stores and supplies	101,801
Depreciation	34,466
Interest	5,282
Other operating expenditure	142,051
Total	*1,765,349*
Operating Profit	**45,859**
Appropriations—	
Accumulated profit brought forward	116,584
Operating profit for the year	45,859
Adjustments to provision	15,754
Accumulated profit carried forward	178,197

AUSTRALIAN POSTAL CORPORATION: PERSONS ENGAGED IN PROVIDING POSTAL SERVICES AT 30 JUNE 1988 AND 1989

	HQ	*NSW (incl. ACT)*	*Vic.*	*Qld*	*SA (incl. NT)*	*WA*	*Tas.*	*Aust. 1989*	*Aust. 1988*
Official staff *(a)*—									
Full-time permanent	584	12,175	8,655	4,086	2,534	2,313	587	30,934	32,302
Full-time temporary	25	1,800	1,060	483	183	292	62	3,855	2,981
Part-time	—	1,452	763	571	225	624	189	3,824	3,130
Other staff *(b)*	—	2,569	1,732	1,797	745	756	280	7,879	8,077
Total	**609**	**17,996**	**12,210**	**6,937**	**3,687**	**3,985**	**1,118**	**46,492**	**46,490**

(a) 'Official staff' are those whose employment is governed by the *Australian Postal Corporation Act 1989*. *(b)* Includes persons who are not employed under the Australian Postal Corporation Act, but who are engaged on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Corporation.

AUSTRALIAN POSTAL CORPORATION: MAIL DELIVERY NETWORK AND POST OFFICES AT 30 JUNE 1988 AND 1989

	NSW (incl. ACT)	*Vic.*	*Qld*	*SA (incl. NT)*	*WA*	*Tas.*	*Aust. 1989*	*Aust. 1988*
Households receiving mail	2,202,950	1,555,179	1,002,468	585,808	557,905	163,708	6,068,018	5,943,124
Business receiving mail	234,469	158,334	112,010	58,645	59,999	16,028	639,485	607,177
Post offices—								
At 1 July 1988	496	333	218	143	153	40	..	1,383
At 30 June 1989	490	330	218	141	153	40	1,372	..
Agencies—								
At 1 July 1988	925	840	521	390	247	183	..	3,106
At 30 June 1989	904	836	516	380	244	180	3,060	..
Total post offices and agencies	**1,394**	**1,166**	**734**	**521**	**397**	**220**	**4,432**	**4,489**

AUSTRALIAN POSTAL CORPORATION: TOTAL POSTAL ARTICLES HANDLED
('000)

Year ended 30 June	*Posted for delivery within Australia*	*Posted for places abroad*	*Received from abroad*	*Total postal articles handled*
1984	2,764,113	106,585	164,362	3,035,060
1985	2,877,476	107,783	163,074	3,148,333
1986	2,970,353	115,688	166,444	3,252,485
1987	3,143,251	125,995	169,306	3,438,552
1988	3,342,321	142,280	177,417	3,662,018
1989	3,564,366	157,605	193,988	3,915,959

AUSTRALIAN POSTAL CORPORATION: ORDINARY POSTAL ARTICLES (a)
('000)

	Standard articles			
Year ended 30 June	*Posted for delivery within Australia*	*Posted for places abroad*	*Received from abroad*	*Total articles*
1987	2,689,440	108,228	122,379	2,920,047
1988	2,862,775	122,613	128,407	3,113,775
1989	3,033,166	136,039	141,055	3,310,260
	STATES—YEAR ENDED 30 JUNE 1989			
New South Wales (incl. ACT)	1,169,937	50,862	74,128	1,294,927
Victoria	860,007	37,997	40,635	938,639
Queensland	443,579	23,440	10,534	477,553
South Australia (incl. NT)	249,694	10,393	4,492	264,579
Western Australia	249,747	13,347	11,094	274,188
Tasmania	60,202	—	172	60,374

(a) Includes certified, messenger delivery and priority paid mail.

Telecommunications Services Within Australia

The Australian Telecommunications Corporation was established on 1 January 1989 after amendments to the Australian Telecommunications Act. A new Board of Directors was formed and this arrangement was continued under the Australian Telecommunications Corporation Act which came into force on 1 July 1989.

The formation of the new Corporation was in response to major Government policy changes which saw the abolition of the former Australian Telecommunications Commission, which was created on 1 July 1975 under the *Telecommunications Act 1975*.

The Australian Telecommunications Corporation operates under the trading name Telecom Australia.

The responsible Minister is the Minister for Transport and Communications, assisted by the Minister for Telecommunications and Aviation Support.

Functions

The main function of the Corporation is to supply telecommunications services within Australia. A subsidiary function is to carry on, outside Australia, any business or activity relating to telecommunications.

Telecom has several obligations:

- to perform its functions in a manner that is consistent with sound commercial practice;
- to ensure that, in view of its social importance, the public switched telephone service is reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business;
- to ensure the performance standards for the public switched telephone service reasonably meet the social, industrial and commercial needs of the Australian community; and
- to perform its functions, in a manner that is consistent with any general policies of the Commonwealth Government notified by the Minister, any directions given by the Minister, and Australia's obligations under any convention.

Subsidiary companies and joint ventures

As at 30 June 1989, Telecom subsidiary and joint venture companies were:

- Telecom Australia (International) Ltd—100 per cent owned
- Telecom Australia (Saudi) Ltd—50 per cent owned
- Telesoft Communications Pty Ltd—100 per cent owned
- QPSX Communications Pty Ltd—74 per cent owned
- QPSX Communications Australia Pty Ltd—100 per cent owned
- QPSX Systems Inc. (US)—100 per cent owned
- Information Switching Technology Pty Ltd—60 per cent owned
- Advanced Network Management Pty Ltd—60 per cent owned
- T-Net Pty Ltd—60 per cent owned
- Telecom Messagetech Pty Ltd—51 per cent owned
- Natsoft Communications Pty Ltd—50 per cent owned
- Telecom Technologies Pty Ltd—50 per cent owned
- National Registries Pty Ltd—50 per cent owned
- Telecom–Hewlett Packard Pty Ltd—50 per cent owned
- AUSSAT Pty Ltd—25 per cent owned
- Infonet Services Corporation—5 per cent owned.

Telecom also participates in two companies, National Protocol Support Centre Ltd and Australian Electronic Development Centre Ltd, which are limited by guarantee and have no share capital.

Statistics

The following table shows selected statistics relating to the latest three years of the Corporation's operations.

AUSTRALIAN TELECOMMUNICATIONS CORPORATION: SUMMARY OF SELECTED STATISTICS

Year ended 30 June		*1987*	*1988*	*1989*
		FINANCIAL		
Revenue	$ million	6,047.5	7,199.5	7,976.8
Expenses	"	5,604.2	6,423.3	7,003.7
Operating profit	"	443.3	776.6	973.1
Rate of return	%	10.6	12.0	13.8
Addition to fixed assets	$ million	2,403.1	2,236.1	2,580.5
Net value of fixed assets	"	12,759.4	12,073.1	13,045.4

AUSTRALIAN TELECOMMUNICATIONS CORPORATION: SUMMARY OF SELECTED STATISTICS—*continued*

Year ended 30 June	1987	1988	1989
TRAFFIC (million)			
Telephone calls			
Local	7,538.9	8,074.7	8,126.5
Trunk	1,328.1	1,488.5	1,652.8
To overseas	47.8	65.9	85.1
Cellular mobile telephone calls	n.a.	27.9	74.0
Total	*8,867.0*	*9,629.1*	*9,938.4*
Calls to recorded information services	129.7	137.2	124.0
NETWORK AND OPERATIONS			
Telephone			
Demand for new services	610,267	650,809	706,120
Connection of new services	617,806	643,834	682,907
Services in operation	6,816,301	7,091,549	7,419,982
Data services			
Modems in operation	103,726	103,962	97,890
Digital data service—network terminating units	35,210	52,489	68,117
AUSTPAC service—number of outstations	3,924	6,015	9,235
STAFF			
Average full-time staff	93,857	89,659	84,104

Australia's National Satellite System—AUSSAT

AUSSAT Pty Ltd

AUSSAT Pty Ltd was established by the Federal Government in November 1981 as a commercial company to own, operate and manage Australia's National Satellite System.

AUSSAT's Memorandum and Articles of Association and the *Satellite Communications Act 1984* require the company to:

- provide a telecommunications system for Australia by using space satellites and make available the facilities for use in telecommunications systems in neighbouring regions;
- provide service on a non-discriminatory basis and to set fair and equitable charges;
- operate as a commercial taxpaying enterprise paying reasonable dividends to the shareholders.

The company currently has a paid up equity capital of $100 million. Seventy-five per cent of its shareholding is held by the Australian Government with the remaining 25 per cent being held by Telecom Australia.

AUSSAT has a board of nine directors and employs a staff of some 270 people, the majority of whom are highly qualified engineers, technicians and scientists.

The Australian National Satellite System

AUSSAT's first generation satellite system comprises three Hughes Aircraft Company HS 376 spin stabilised satellites. Geostationary orbit locations are: AUSSAT 1—160°E longitude, AUSSAT 2—156°E longitude with AUSSAT 3 at 164°E longitude, some 36,000 kilometres above the earth, directly over the equator.

Each satellite has a minimum design life of seven years. The first two satellites, launched by the Space Shuttle in August and November 1985 respectively, are expected to achieve a seven and a half-year life. It is expected that AUSSAT 3, launched in September 1987 by the European ARIANE rocket, will achieve an on-orbit life of some ten years.

Each satellite carries four high powered (30 watt) transponders and eleven standard power (12 watt) transponders, providing a total of 12x30 watt transponders and 33x12 watt transponders on the three satellite first generation system. The satellites operate in the 12–14 GHz KU Band, on a dual polarised basis to provide for re-use of band width.

The three dish antenna system used on the Australian satellites is a unique and distinguishing feature. The antenna array enables each satellite to provide national beam coverage of the entire Australian continent and its offshore regions and four spot beams covering:

- North-East (Queensland)
- Central Australia (Northern Territory and South Australia)
- West (Western Australia)
- South-East (New South Wales, Victoria and Tasmania)

The satellites also have the capability of providing a switched beam to cover Papua New Guinea, and AUSSAT 3 has a switched beam capability covering the south-west Pacific region and New Zealand.

AUSSAT also operates two telemetry, tracking command and monitoring ground stations. The main centre is located in the Sydney suburb of Belrose, and it is from this station that final positioning and maintenance of the satellites in the geostationary orbit is monitored and controlled. A backup to the Belrose Satellite Control Centre is located in the Perth suburb of Lockridge.

Ground segment

AUSSAT owns and operates a network of eight Major City Earth Stations (MCES) located in Melbourne, Hobart, Adelaide, Perth, Darwin, Brisbane, Sydney and Canberra.

These facilities are designed to provide 'gateway' access to the satellites for AUSSAT customers whose requirements for services do not warrant the purchase of their own satellite earth stations. Microwave or land line connection from each station to customer premises is available.

Applications

The first AUSSAT satellite was commissioned for service on 1 October 1985 with the second satellite coming on-line on 1 January 1986 and AUSSAT 3 in November 1987.

Since commencing operation, the satellite system has proven to be an outstanding success with demand for capacity being far greater than originally projected. More than 80 per cent of available capacity on the first two satellites has been contracted and is now in service.

The design of the satellite communications payload and beam configuration provides multi-purpose capabilities for the system. It allows for the provision of broadcast services for television and radio, as well as program distribution and interchange and for a full range of telecommunication services such as voice, video, telex and data.

Summary of current AUSSAT applications

Broadcasting direct-to-home

The single largest application at the present time is the provision of broadcasting services for television and radio directly into homes in remote outback regions of Australia. This service, known as the Homestead and Community Broadcasting Satellite Service (HACBSS) is being provided, initially, by the Australian Broadcasting Corporation (ABC). The HACBSS service provided by the ABC comprises television programming, two AM radio services and a stereo FM radio service.

With the launch and commissioning of AUSSAT 3, the service provided by the ABC is being supplemented by a similar commercial service known as the Regional Commercial Television Service.

Major network television

Australia's three major television networks are also large users. Each network has leased a standard power (12 watt) transponder and is using the satellite system for program distribution, news gathering and itinerant special program events, such as sporting fixtures.

Aviation

The Department of Transport and Communications has contracted for a total of four standard power transponders which will be used to establish a fully duplicated network of reliable voice and data links between 46 staffed air traffic control facilities and 55 unstaffed remote VHF air-to-ground facilities throughout Australia.

Commercial applications

Apart from the applications detailed above, AUSSAT has contracted with a number of government agencies and commercial organisations for the provision of a wide variety of services. Uses range from the provision of private network voice, video and data services to exciting applications in entertainment distribution, remote and long distance education, emergency services, health and medical services, including the use of slow scan television for diagnostic purposes.

The next generation

AUSSAT has contracted for the manufacture and in-orbit delivery of its second generation satellite system planned for launch in 1991–92.

The system, to be built by Hughes Communications International of Los Angeles, United States, will comprise two much larger satellites providing increased capacity and higher power.

Apart from ensuring continuity of established services the second generation satellites will carry L Band transponders to enable the establishment of a domestic mobile satellite service. This service will be operational by 1992 and could potentially be the first such domestic service in the world.

Overseas Telecommunications Services

OTC Limited

OTC Limited has provided Australia's telecommunications links with the world since 1946.

Formerly the Overseas Telecommunications Commission, OTC had its beginnings in the early 1940s, when the Australian Government decided it should control its own international communications services, which were then being provided by private enterprise companies.

The primary areas of activity for the infant OTC were international telegraph, radio telephone services and a coastal radio service which still provides commercial communications, weather, navigational and distress services to maritime traffic in Australian coastal waters.

Communications networks

From the 1950s, when the expansion of international business required the girdling of the globe with coaxial cable systems, OTC has been a major investor in new communications technologies. It is one of the world's largest owners of submarine cable systems and was early to recognise the potential of satellite communications.

OTC is a founding member of both the International Telecommunications Satellite Organisation (INTELSAT) and the International Maritime Satellite Organisation (INMARSAT).

It is now using its experience of more than 40 years to develop communications networks in other parts of the world. It has built satellite earth stations in locations as diverse as the Antarctic, Vietnam, the Cocos and Christmas islands, Malta and Laos.

From the beginning of 1990, it will provide the opportunity for 15 small nations in the South Pacific to gain access to modern, satellite-based communications systems, hubbed from the OTC Sydney Satellite Earth Station.

OTC became a company, OTC Limited, on 1 April 1989. All shares are held by the Australian Government.

Parallel changes to the industry's regulatory framework have introduced a more competitive marketplace. This new environment has led OTC to become a joint venturer with other companies in the Australian domestic value added services market with particular interests in electronic mail, electronic documents interchange, communications computer software and database access.

In the year ended 31 March 1989 OTC reported a record after-tax profit of $189.1 million from total revenue of $1,280 million. It paid a dividend of $84 million to the Australian Government. The company expects to invest more than $2,000 million on expanding Australia's international telecommunications capacity in the next decade.

Over 2,000 people are currently employed by OTC.

OTC has satellite earth stations in Sydney, Perth, Ceduna, and Melbourne; it has cable stations in Cairns, Sydney, Norfolk Island and Perth; international gateway exchanges in Sydney and Melbourne, with another under construction in Perth; international radio stations in Sydney; and 13 maritime communications stations around Australia's coastline.

OTC's corporate headquarters are in Sydney and it has business offices in Melbourne, Brisbane and Canberra. It also maintains international business offices in London, New York, Tokyo, Bangkok and Wellington.

Radiocommunication Stations

At 30 September 1989 there were 1,012,847 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 508,115 were associated with land mobile services, 49,023 were fixed services, 69,754 were for marine services, 322,281 were citizens band (CB) stations and 18,154 were amateur stations. Particulars of broadcasting stations are shown in the following section.

BROADCASTING AND TELEVISION

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting Act 1942* is one of the responsibilities of the Minister for Transport and Communications. Federal bodies which are involved include the Australian Telecommunications Corporation (Telecom), the Australian Broadcasting Corporation (ABC), the Special Broadcasting Service (SBS), the Australian Broadcasting Tribunal (ABT), the Department of Transport and Communications, the Overseas Telecommunications Corporation (OTC), AUSTEL and AUSSAT Pty Ltd.

Basically, the Australian broadcasting system comprises the following types of services:

- national radio and television services broadcasting programs produced by the Australian Broadcasting Corporation and the Special Broadcasting Service;
- commercial radio and television services operated by companies under licence;

- public radio services operated by corporations under licence on a non-profit basis; and
- services operated under the auspices of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Transport and Communications assumed responsibility for broadcasting planning, including all matters relating to the technical operation of stations, and for the investigation of interference to the transmission and reception of programs.

The commercial radio and television service

Commercial radio and television services are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Transport and Communications. The services obtain income from broadcasting advertisements. At 30 June 1989 there were 144 commercial radio services in operation in Australia (including 2 supplementary licences). Call signs for radio services are prefixed by numerals indicating each State of Australia (2—New South Wales, 3—Victoria, 4—Queensland, 5—South Australia, 6—Western Australia, 7—Tasmania, 8—Northern Territory). In addition, there were 47 commercial television services in operation in Australia, a reduction from 50 in the previous year because of consolidation of licences. Many of these services have one or more radiocommunications transmitters to enable the service from the principal transmitter to be provided to the entire service area.

A number of commercial radio and television transmitters known as rebroadcasting services were in operation at 30 June 1989. These have low power and are designed to receive and rebroadcast the signals of the service in whose area they are located. The permits are not held by the licensees of the service which is being rebroadcast but are held by a community group or a company in the area, a local council or some other government authority. The ABC and some SBS services are retransmitted in this manner.

At 30 June 1989, there were three remote commercial television services licensed, transmitting their programs via satellite to remote localities in the Western Zone (Western Australia), Central Zone (Northern Territory and South Australia) and North-East Zone (Queensland).

The public broadcasting service

The Broadcasting Act also makes provision for the granting of licences for the operation of public radio and television services. At 30 June 1989, 77 public radio services were broadcasting programs ranging from fine music to ethnic languages and programs produced by and directed towards specific communities. Some public radio services are associated with tertiary educational institutions. There are no public television services permanently operating in Australia.

The Special Broadcasting Service

The Special Broadcasting Service (SBS) was established by the Commonwealth Government on 1 January 1978 to provide multilingual radio services and, if authorised by regulations, to provide multilingual television services. A regulation authorising the provision of multilingual television services was gazetted in August 1978. The service is also empowered by the *Broadcasting Act 1942* to provide broadcasting and television services for such special purposes as are prescribed by the government.

In carrying out its functions, the SBS provides multilingual radio services to the Melbourne metropolitan area and Geelong through radio station 3EA which broadcasts in 55 languages for 126 hours per week; the Sydney metropolitan area through radio station 2EA which broadcasts in 59 languages for 126 hours per week; the provincial centres of Newcastle and Wollongong in NSW through 2EA translator services; plus on relay to a small number of public broadcasting stations throughout Australia.

It also provides Australia's sole national UHF-only television network. Since inception in October 1980, SBS-TV has grown from servicing Melbourne and Sydney only, to providing a television transmission in all capital cities (except Darwin) plus several major regional centres.

Transmitting solely on Ultra High Frequency (UHF), SBS-TV is seen on the following channels: Sydney, Melbourne, Canberra, Adelaide, Brisbane, Perth and Hobart on UHF 28; Bowral/Mittagong (NSW) and Stanwell Park (NSW) on UHF 30; Wyong (NSW) on UHF 39; Adelaide's foothills and Taroona (Tas.) on UHF 43; Wollongong (NSW) on UHF 44; Newcastle on UHF 45; Upwey (Vic.) on UHF 51; Wollongong (NSW) and Wagga Wagga (NSW) on UHF 53; Braidwood (NSW) and Tuggeranong (ACT) on UHF 54; Khancoban (NSW) on UHF 57; Cooma (NSW), Gosford (NSW), Goulburn (NSW), Tuggeranong (ACT), Warburton (Vic.), Marysville (Vic.) Safety Beach (Vic.) and Sydney's eastern suburbs on UHF 58; the Gold Coast on UHF 61; Ferntree Gully (Vic.) on UHF 68; and Belgrave/Selby (Vic.) on UHF 69.

SBS-TV operates to most of these centres via AUSSAT. SBS television and radio stations (2EA and 3EA) are also able to be received throughout New South Wales, Victoria and Tasmania by audiences with private AUSSAT satellite dishes.

The timetable proposed by the Federal Government for the extension of SBS Television is: 1991—Latrobe Valley; 1992—Bendigo, Ballarat, Darling Downs; 1993—Spencer Gulf, Darwin, north-east Tasmania; 1994—Cairns, Townsville.

Broadcasting Services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977. It is an independent statutory authority established by the *Broadcasting Act 1942* to regulate some aspects of commercial and public radio and commercial television in Australia. The Tribunal is empowered to grant, renew, suspend or revoke licences, to determine program and advertising standards applicable to licensed stations, to authorise changes to the ownership and control of licences, and to collect and make available information about broadcasting in Australia. In particular, the Tribunal is required to conduct public inquiries into the granting of licences following the invitation of applications by the Minister. The Tribunal may also conduct inquiries into the renewal of licences, the setting of standards of broadcasting practices, alleged breaches of licence conditions and other matters.

The National Broadcasting Service

Television and radio programs produced by the Australian Broadcasting Corporation (ABC) are broadcast through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Transport and Communications. The first national television station, (ABN Sydney), began regular transmission on 5 November 1956.

Technical facilities

At 30 June 1989, the ABC had 320 transmitting stations, of which 107 were medium frequency (AM), 191 frequency modulation (FM) and 6 high frequency (shortwave) excluding Radio Australia, which has 16 high frequency transmitters.

The medium frequency transmitters operate in the broadcast band 526.5 to 1,606.5 kilohertz. The high frequency stations using frequencies within the band of 3 to 30 megahertz provide services to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland.

Many of the programs provided by regional stations are relayed from the capital cities using high-quality program transmission lines. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia. When necessary, this system is extended to connect ABC stations with commercial broadcasters.

At 30 June 1989, 89 of the ABC's medium frequency stations were situated outside major metropolitan areas. The ABC also broadcasts parliamentary proceedings from stations in Sydney, Newcastle, Canberra, Melbourne, Brisbane, Adelaide and Perth.

Program facilities

ABC programs cover a wide range of subjects. The proportions of broadcasting time allocated on metropolitan stations to the various types of program during 1988–89 were as follows: news, 11.0 per cent; current affairs, 9.4 per cent; sport, 1.4 per cent; music, 45.5 per cent; and talk, 33 per cent. The ABC's Radio National network broadcasts programs in the following proportions: news, 10.1 per cent; current affairs, 9.6 per cent; rural, 3.4 per cent; drama, 4.7 per cent; Social History Unit, 1 per cent; Australian Women's Broadcasting Co-op., 3.1 per cent; science, 2.1 per cent; religious, 4.5 per cent; education, 10.7 per cent; music, 27.3 per cent; presentation, 12.1 per cent; and Radio Australia, 18.7 per cent.

International Broadcasting Service

Seven high frequency stations at Shepparton (Victoria), 3 on the Cox Peninsular at Darwin (Northern Territory), 3 at Carnarvon (Western Australia) and 2 at Brandon (Queensland), provide the international short wave service known as Radio Australia. The transmitters are maintained and operated by Telecom Australia, with programs arranged and presented by Radio Australia from its Melbourne studios. There is an emphasis on news and current affairs, informative features and topical interviews. Entertainment programs and sporting coverage are also presented.

The broadcasts—in English, Indonesian, Japanese, Tok Pisin, Thai, French, Standard Chinese, Cantonese and Vietnamese—are directed to the Pacific, Papua New Guinea and Asia. The English Service is also heard in the Middle East, United Kingdom, Europe and North America. Overall, the services reach an estimated 50 million regular listeners.

BROADCASTING STATIONS, 30 JUNE 1989

Type of station	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
National—									
Medium frequency (AM)	24	9	22	11	25	7	6	3	107
High frequency (HF)	—	—	2	—	1	—	3	—	6
Frequency modulation (FM)	22	8	79	12	52	7	10	1	191
International—									
Short wave (Radio Australia)	—	7	3	—	3	—	3	—	16
Commercial—									
Medium frequency (AM)	49	22	36	12	22	9	3	3	156
Frequency modulation (FM)	9	2	4	2	1	1	—	2	21
Public broadcasting—									
Medium frequency (AM)	*(a)*4	1	2	1	1	1	—	1	*(a)*12
Frequency modulation (FM)	31	16	9	7	5	5	3	1	81

(a) Includes the Special Broadcasting Service.

Television Services

The National Television Service

The National Television Service is provided by the ABC through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Transport and Communications. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956.

The proportions of television time allocated to the ABC's various departments during 1988–89 were as follows: Children's television 20.8 per cent; Drama 16.5 per cent; Education, Arts and Religion 18.1 per cent; Information 3.6 per cent; Light Entertainment 2.8 per cent; Music 13.1 per cent; News, Current Affairs, Documentaries 13 per cent; Games 1.52 per cent; Sport 6.7 per cent; and presentation and promotions 0.96 per cent.

During 1988–89, 17 new transmitters went into operation: six in New South Wales; one in Victoria; four in Queensland; five in Western Australia and one in South Australia.

Colour television

Colour television (PAL) was introduced in Australia late in 1974 and services became fully effective in March 1975.

TELEVISION TRANSMITTER STATIONS, 30 JUNE 1989

Type of station and location	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
National—									
Metropolitan television	6	12	4	4	2	4	1	6	39
Country television	74	29	114	21	69	21	26	—	354
Total, National	*80*	*41*	*118*	*25*	*71*	*25*	*27*	*6*	*393*
Commercial—									
Metropolitan television	9	21	9	6	3	2	1	7	58
Country television	76	25	68	18	71	20	7	—	285
Total, Commercial	*85*	*46*	*77*	*24*	*74*	*22*	*8*	*7*	*343*

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Transport Establishments: Summary of Operations by Industry Class, Australia and States, 1983–84 (9103.0)

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Transport Establishments: Selected Items of Data Classified by Industry and Size Group, 1983–84 (9105.0)

Road Freight Activity of Private Enterprises by Industry Division, Australia and States, 1983–84 (9107.0)

Shipping and Air Cargo Commodity Statistics, Australia (9206.0)

Survey of Motor Vehicle Use, twelve months ended 30 September 1988 (9208.0)

Interstate Freight Movement, Australia (9212.0)

Rail Transport, Australia (9213.0)

Interstate Freight Movement, Australia (9214.0)

Motor Vehicle Registrations, Australia (9303.0)

Motor Vehicle Registrations, Australia (9304.0)

Motor Vehicle Census, Australia (9309.0)

Road Traffic Accidents Involving Fatalities, Australia (9401.0)

Road Traffic Accidents Involving Casualties (Admission to Hospitals), Australia (9405.0)

Other Publications

Information additional to that contained in ABS publications is available in the annual reports and other statements of the Department of Transport and Communications, the various harbour boards and trusts, the several government railway authorities, the Federal Airports Corporation, the Australian Postal Corporation, the Australian Telecommunications Corporationn, and the Australian Broadcasting Corporation.

22

SCIENCE AND TECHNOLOGY

Science and technology directly influence the strength and competitiveness of industry by providing a basis for technological change and thereby encouraging economic growth and development. They can be seen as making major contributions to the achievement of many of Australia's social, economic and industrial goals.

There are many organisations in Australia concerned in some way with the development of science and technology in Australia.

The Commonwealth Government's conviction of the importance of science and technology is reflected in the functions of the Department of Industry, Technology and Commerce. Apart from having general responsibility for science and technology, the Department is concerned with the development and maintenance of Australia's scientific and technological capability.

A number of other Commonwealth Government organisations either support or carry out scientific and technological activities. State governments are also involved in science and technology via State government departments, science and technology councils and other organisations. Non-government organisations participating in scientific and technological activities include higher education institutions, professional and learned bodies, private organisations and industry groups.

Information on scientific and technological activities presented in this chapter includes:

- Australian Bureau of Statistics data on resources devoted to research and experimental development (R&D) and other innovative activities. The R&D surveys cover organisations in the business enterprise, general government, private non-profit and higher education sectors.
- Department of Industry, Technology and Commerce statistics on expenditure on R&D and other scientific and technological activities carried out or funded by Commonwealth Government organisations.
- Australian Bureau of Statistics information on manufacturing industry technology operations and trade categorised into high technology, medium technology and low technology (industries or commodities).

The Department of Industry, Technology and Commerce—DITAC

Following the Administrative Arrangements Order of 24 July 1987, the Industry, Technology and Commerce portfolio has primary responsibility for advising the government and implementing policy in relation to Australian science and technology; manufacturing and service industries; export services and customs and excise.

Within the portfolio, DITAC is the central point of contact for industry, unions, other Commonwealth departments, and State and local governments on matters relating to manufacturing, and service industries. DITAC incorporates parts of the former Departments of Science, Trade, and Housing and Construction. The major scientific and technological aspects of the portfolio include the following bodies and activities.

The Commonwealth Scientific and Industrial Research Organisation—CSIRO

CSIRO was established as an independent statutory authority by the *Science and Industry Research Act 1949*. The Act has been amended on a number of occasions since then, including in 1978, following the government-instigated 'Birch Committee of Inquiry' and in November 1986, following the 'Review of Public Investment in Research and Development in Australia', specifically including CSIRO, carried out by the Australian Science and Technology Council (ASTEC).

The 1986 amendments to the Act, confirm that CSIRO's primary role is to continue as an applications-oriented research organisation in support of major industry sectors and selected areas of community interest, but with a stronger commitment to the effective transfer of its results to users. The most recent amendments have also included changes to the top management structure and the Organisation's advisory mechanisms.

Briefly, CSIRO's primary statutory functions are to:

- carry out scientific research for the benefit of Australian industry, the community, national objectives, national or international responsibilities, or for any other purpose determined by the Minister;
- encourage or facilitate the application or utilisation of the results of such research.

Other functions include dissemination and publication of scientific information, international liaison in scientific matters, and provision of services and facilities.

The research work of the Organisation is carried out in Institutes, each headed by a Director and each specifically established to undertake work in support of industry or community interest sectors of the Australian economy. Institutes are composed of Divisions, which are individually responsible for broad programs of research in support of the objectives of the Institute.

Institute of Information and Communications Technologies: Divisions of Information Technology; Radiophysics; Mathematics and Statistics; CSIRO Office of Space Science and Applications; Australia Telescope.

Institute of Industrial Technologies: Divisions of Manufacturing Technology; Materials Science and Technology; Applied Physics; Chemicals and Polymers; Biotechnology.

Institute of Minerals, Energy and Construction: Divisions of Building, Construction and Energy (now incorporates National Building Technology Centre); Exploration of Geoscience; Mineral and Process Engineering; Mineral Products; Coal Technology; Fuel Technology; Geomechanics.

Institute of Animal Production and Processing: Divisions of Animal Health; Animal Production; Wool Technology; Tropical Animal Production; Food Processing; Human Nutrition.

Institute of Plant Production and Processing: Divisions of Plant Industry; Tropical Crops and Pastures; Horticulture; Entomology; Soils; Forestry and Forest Products.

Institute of Natural Resources and Environment: Divisions of Water Resources; Fisheries; Oceanography; Atmospheric Research; Wildlife and Ecology; Centre for Environmental Mechanics.

CSIRO has a total staff of more than 7,000 in more than 100 locations throughout Australia. About one-third of the staff are professional scientists, with the others providing technical, administrative or other support. CSIRO's budget for 1988–89 was $466 million.

The Australian Nuclear Science and Technology Organisation—ANSTO

ANSTO was established on 27 April 1987 as a statutory authority by the Commonwealth Parliament under the *Australian Nuclear Science and Technology Organisation Act Number 3 of 1987*. ANSTO replaces the Australian Atomic Energy Commission, which had been in existence since 1953.

ANSTO has its headquarters at the Lucas Heights Research Laboratories, 30 kilometres south-west of Sydney. Of its staff of some 800, about 250 are qualified scientists and engineers. Its mission is to benefit the Australian community by the development and peaceful application of nuclear science and technology in industry, medicine, agriculture, science and other fields. In this mission, ANSTO maintains a high regional and international standing in nuclear matters and both provides advice to and carries out tasks as required by the Commonwealth Government.

The five major research program areas of ANSTO are:

- isotope technology;
- the application of nuclear physics;
- biomedicine and health;
- environmental science; and
- advanced materials.

ANSTO is broadening its commercial ethos with research being directed to achieve the Organisation's social and corporate goals. Because its multidisciplinary body of expertise is located at one centre, together with its two nuclear research reactors and other specialised laboratory equipment, ANSTO can provide a range of unique and essential techniques and services to the Australian community. Established under the ANSTO legislation is the independent Nuclear Safety Bureau which is responsible for monitoring and reviewing the safety of nuclear reactor plant operated by ANSTO. The Bureau reports to the Minister responsible for administration of the ANSTO Act. ANSTO's annual expenditure is in the order of $67 million with sales revenue of approximately $7.5 million.

The 150 per cent Tax Concession for Research and Development

The 150 per cent Tax Concession for Research and Development (R&D) is the major initiative in the Government's package of measures to encourage industrial R&D in Australia. The incentive which commenced in July 1985, was originally due to end on 30 June 1991. In May 1989, the Government announced that the concession will be available at 150 per cent until 30 June 1993. A reduced incentive of 125 per cent will then be available until 1995.

The concession allows companies incorporated in Australia, public trading trusts and partnerships of eligible companies to deduct up to 150 per cent of eligible expenditure incurred on R&D activities when lodging their corporate tax return.

To attract the full 150 per cent deduction, annual eligible R&D expenditure must exceed $50,000, with a sliding scale operating from 100 to 150 per cent where annual R&D expenditures range from $20,000 to $50,000.

Where eligible R&D is contracted to an approved Registered Research Agency (RRA) the expenditure threshold is waived with all expenditure attracting the full 150 per cent concession.

National Teaching Company Scheme

Background

The National Teaching Companies Scheme (NTCS), which is administered by the Commonwealth Department of Industry, Technology and Commerce, was started in Australia in 1984 as an adaptation of the British Teaching Company Scheme.

The NTCS is part of the Australian Government's program to facilitate the growth and competitiveness of Australian industry. The Scheme encourages links between companies and supporting institutions such as tertiary educational institutions and public research agencies, by subsidising the cost of employing and supervising high calibre graduates in projects designed to improve company performance.

Aim

The aim of the Scheme is to promote the development and improve the efficiency and international competitiveness of Australian industry by developing lasting working relationships between supporting institutions and companies in the manufacturing service and information industries, as well as providing graduates with industry experience and possible career and employment opportunities.

How NTCS works

A company and an institution (which are within easy commuting distance) lodge a joint application for NTCS support to undertake a particular project requiring the expertise of a graduate with specific and relevant qualifications.

Applications, which are called for on an annual basis, are considered by an independent committee of business people and academics. The Australian Government is the primary source of funding with $1.6 million being allocated for the 1989–90 round of grants. Most State governments are now providing additional funding to support particular eligible projects which were unable to be funded by the Commonwealth government due to limited funds.

Once funding is approved, a graduate is appointed and is jointly supervised on the project by the project managers of the company and institution. During the project, the institution's facilities are made available to the graduate and the company as required.

Funding

NTCS provides $50,000 grant support over a maximum of two years. Of this, $34,000 is paid to the company towards the salary of the graduate, $10,000 is paid to the supporting institution for academic support costs and an additional $6,000 is paid to the employer (i.e. either the company or institution) towards administrative costs of employing the graduate.

Support to date

Since the commencement of the NTCS, the Australian Government has provided $6 million support to 157 projects in the areas of biotechnology, aqua-culture, horticulture, mechanical and structural engineering, computing science, shipbuilding, mining, electronics, veterinary science, information and communications technology, metals manufacture, membrane technology, management, marketing, improved manufacturing processes, etc.

National Procurement Development Program—NPDP

Acting on the recommendations of the Inglis Committee of Review of Government High Technology Purchasing Arrangements, the Commonwealth agreed to establish the Program to fund research, development, trials and demonstration projects to encourage government departments and agencies to seek new Australian solutions for their forward procurement needs.

The NPDP differs from other Board schemes by providing assistance for industry to undertake trials and demonstrations, as well as research and development.

Patent, Trade Marks and Designs Offices

The Offices, through their Central Office in Canberra and Sub-offices in each State capital, administer Australia's industrial property systems for the protection of patents, designs and trade marks. These systems encourage investment in, and innovations based on, new technology and industrial designs, and promote orderly marketing through registered trade marks.

The Offices maintain an information data base on inventions and industrial designs to facilitate the transfer and diffusion of technology. A data base of registered trade marks is also maintained. This information is available to the public through the Offices' Sub-offices.

The National Industry Extension Service—NIES

The competitive edge for Australian manufacturing industry lies as much in the quality of its management as it does in other economic factors. In pursuing an export culture, the Australian government in partnership with each of the State and Territory governments has established the National Industry Extension Service (NIES) to deliver the best management advice and assistance to Australian manufacturers.

NIES encourages Australian manufacturers to take a strategic view of their enterprises and to implement strategies for marketing, manufacturing, product innovation, human resources and quality. Companies are assisted by a network of service providers including private sector consultants, academic institutions and government agencies. NIES expects a long term association with companies and works collaboratively with AUSTRADE to prepare companies to meet the rigours of international markets.

The Management and Investment Companies Program

In 1984, the Government established the Management and Investment Companies Licensing Board to encourage the development of venture capital industries in Australia. The main objective of the program is to attract management and financial support for the start-up and early growth of those Australian based enterprises which have the potential to grow rapidly into substantial businesses, are export oriented and use innovative technology.

The Bureau of Industry Economics

Primary responsibility for the Department's Industry Research Program lies with the Bureau of Industry Economics, which was established in 1977 as a centre for research into the Australian manufacturing and commerce sectors of the economy. The Bureau is assisted in devising its research program by a Council of Advice, comprising business and union leaders and prominent academics.

The Bureau's research program is concerned with a broad range of industry policy issues, including:

- individual industry studies as well as the investigations of general issues affecting a broad range of manufacturing and service industries;
- forward-looking studies on the likely future development of Australian industry, as well as detailed investigations of the factors responsible for the performance of industry in the recent past;
- aspects of industrial technology and production as well as pricing and marketing issues.

Evaluation of the effectiveness of existing government policies and programs is an important part of the Bureau's research. The Bureau also contributes to policy reviews, including Industries Assistance Commission and other public inquiries, and assesses the economic aspects of papers put to it by industry and trade unions.

The Snowy Mountains Engineering Corporation—SMEC

SMEC is a public company fully owned by the Australian Government which operates as engineering consultants and project managers in Australia and Overseas. Since its development from the Snowy Mountains scheme in 1970, SMEC has now grown into a multidisciplined consulting organisation of international standing in civil, electrical and mechanical engineering. SMEC has completed some 1,350 projects in 48 countries, including Australia. These projects have a capital value of $A4,500 million and involved fees of $A320 million.

A full range of expert engineering consulting services are provided by SMEC for pre-feasibility investigations, feasibility studies, field and laboratory investigations, design, project management, construction supervision, operation and maintenance, training and many individual tasks.

Projects have included hydro-electric and multipurpose water resources development, river basin studies, dams and power stations, power transmission and distribution, irrigation and flood control, roads and bridges, tunnels, shafts and underground works and pipelines.

SMEC, as well as working on projects in all States of Australia, has provided consulting services for projects throughout Asia and the Pacific islands, in Africa, the Middle East, and in North and South America.

SMEC is registered as an Engineering Consultant with United Nations agencies, World Bank, Asian Development Bank, Commonwealth Fund for technical cooperation, Kuwait Fund for Arab Economic Development, Arab Bank for Economic Development in Africa and the Australian International Development Assistance Bureau. Projects have been successfully carried out in many countries, using finance from these donor and lending institutions.

The Corporation was a recipient of two Australian Government Export Awards in 1977 and 1982, and the Governor-General's Award for Export Excellence in 1984.

SMEC has a staff of over 220 professionals, technical and administrative support staff. Its headquarters are in Cooma, NSW. Branch offices are located in Sydney, Brisbane and Canberra. International branch offices are located in Dhaka, Gaborone, Jakarta and Kuala Lumpur, with project offices in many other locations.

The Australian Institute of Marine Science—AIMS

AIMS was established as an independent statutory authority by the *Australian Institute of Marine Science Act 1972*. Its functions are to carry out research into marine science and the Institute is located at Cape Ferguson, 50 kilometres east of Townsville.

The Institute's research and development activities involve biological, chemical and physical oceanographic studies concentrated mainly on the Great Barrier Reef, other coral reefs, mangroves, estuaries and continental shelf waters of northern Australia. It operates four research vessels for these activities. Significant topics include research on the crown-of-thorns starfish phenomenon, ultra-violet blocking agents in corals, climatic records in corals, mangrove and billfish food chains, and use of remote sensing for analyses of marine systems. Recent developments include isolating substances from marine organisms for potential anti-cancer and therapeutic value and conducting genetic research into prawn stocks to assist the prawn mariculture industry.

The Institute is funded primarily through federal appropriation and its total budget for 1989–90 was $14.7 million of which $2.1 million was funded from external sources.

The Commission for the Future

The Commission's objective of raising community awareness of all aspects of the social and economic impacts of technological change is based on the premise that industrial restructuring and technological development alone are insufficient for the development of a productive Australian culture. A need exists for an information and education program directed at increasing support for, and understanding of, scientific and technological change and long-term options for Australia.

The Australian Space Board

The Board was established in September 1986 to spearhead Australia's development of its space industry. The six member Board has as its main functions:

- advising the Government on space R&D priorities;
- acting as a focal point for liaison with international agencies;
- supervising and managing the national space program;
- liaising with research institutions, industry and user groups to establish long term national space needs;

- gathering and coordinating information on Australia's space related research and industrial capabilities and providing an information referral service to potential users; and
- reporting annually on both government and industry space matters.

The Australian Space Office

The Office was established in 1987 to oversee Australia's general space effort under the guidance of the Australian Space Board. It is responsible for developing an Australian space industry and managing the $4.4 million National Space Program. It provides policy and secretariat support for the Space Board and implements agreements for the support of foreign civilian space programs, particularly for NASA and ESA.

A space industry development strategy has been prepared and is now being implemented. The strategy focuses on the priority areas of remote sensing, satellite based communications and launch site services. The Office is also examining a number of potential 'national interest' space projects.

The Office is coordinating Federal involvement in the proposal by Cape York Space Agency to build a spaceport at Cape York.

The National Standards Commission

The Commission is a Commonwealth Statutory Authority established in 1948 and presently located at North Ryde, Sydney. The Commission operates under the National Measurement Act and is directed by a Board comprising a part-time chairman and seven commissioners. The Commission has responsibility for advising the Government on the scientific, technical and legislative requirements of the Australian National Measurement System and for coordinating that system. In addition the Commission has specific responsibilities for legal metrology, the completion of metrication, and uniformity of trade measurement. The Commission also examines and approves the patterns of measuring instruments used for trade to ensure the instruments will maintain their calibration and will not be affected by environmental factors (e.g. temperature, humidity or electromagnetic interference).

The Commission provides Australia's representative on the International Committee of Legal Metrology and ensures that Australian legal measurement requirements are nationally uniform and internationally harmonised. Through conferences and liaison with government authorities the Commission aims to ensure the traceability of all legal measurements to Australia's primary standards of measurement.

The Commission maintains close liaisons with government authorities, industry and commerce and consumer groups to ensure adequacy of measurement throughout Australia. The Commission provides the Chairman and secretariat for the Standing Committee on Trade Measurement, the Trade Measurement Consultative Committee and Working Parties on oil and gas flow measurement and time measurement.

The Commission is currently developing a National Metrology Policy that will include a policy for the training of metrologists and calibration technicians.

Other Commonwealth Government Science and Technology Activities

Many other Commonwealth Government agencies play a significant role in the science and technology area. A number of these agencies are involved with R&D activities either as funders, performers or both; others are active in the S&T areas of information dissemination, scientific services and scientific training.

Total Commonwealth Government expenditure on research and development measured in the ABS Research and Development Survey for 1987-88 amounted to $807 million.

State government science and technology activities

State governments are major performers and supporters of scientific and technological activities. Many States have particular departments established for the purpose of encouraging and coordinating the use of technology in industry (e.g. the Victorian Department of Industry, Technology and Resources). Several States (New South Wales, Queensland, Western Australia and South Australia) have also established science and technology councils which provide advice to State governments on science and technology matters and promote the expansion of technology.

In addition to fostering science and technology, many State government departments are large performers of scientific and technological activities. Traditionally, for instance, those departments involved with agriculture (e.g. the Victorian Department of Agriculture and Rural Affairs and various State departments of agriculture) spend large sums on the R&D which they perform and also have a high profile in the general S&T activities of extension and laboratory services.

The total 1987–88 expenditure for R&D carried out by State government organisations measured in the ABS Research and Development Survey was $378 million.

Tertiary education institutions' science and technology activities

Tertiary education institutions play a vital role in the two major S&T areas. These being R&D and scientific and technical training.

Universities receive direct funding for research purposes from a number of sources, the major one being the Commonwealth Government. Commonwealth funds include those administered by the Commonwealth Tertiary Education Commission (special research grants, research equipment grants); those grants and awards distributed through the Australian Research Council; and grants awarded by the National Health and Medical Research Council and through the National Energy Research, Development and Demonstration Program.

Indirect research funding for universities includes both the proportion of general funds from the States Grants (Tertiary Education Assistance) Act allocated by universities to research and the amount attributable to research but coming from general teaching-and-research funds (e.g. the estimated research portion of the salaries of teaching-and-research staff). The latest available figures for total university research expenditure (direct plus indirect sources) came from the ABS Research and Development Survey for 1987 which gives an estimated expenditure of $930 million.

CAEs and institutes of TAFE receive very little research funding from the Commonwealth. The Australian Bureau of Statistics measures R&D effort for CAEs ($54 million in 1987) but does not survey institutes of TAFE.

Data on university, advanced education and TAFE enrolments are presented in Chapter 10, Education. That chapter also gives a more detailed picture of higher education facilities in Australia.

Other Organisations' Science and Technology Activities

There are many other non-government organisations playing an important part in Australia's scientific and technological development. They include various learned and professional bodies such as the Australian Academy of Science, the Australian Academy of Technological Science, the Academy of Social Sciences in Australia and the Australian and New Zealand Association for the Advancement of Science. Their activities include provision of advice in the relevant scientific fields, dissemination of scientific information and enhancement of communication on scientific matters.

A number of private organisations from time to time provide advice to government on specific matters relating to science and technology. Examples from the business sector are the Australian Chamber of Manufacturers, the Business Council of Australia and the Confederation of Australian Industry. Other organisations with an interest in scientific and technological issues include trade unions, industry groups with an interest in specific technologies and individual private organisations.

As performers of research and experimental development, private organisations in Australia are making an increasingly important contribution to Australia's R&D effort. Private business enterprises, for instance, spent an estimated $1,218 million on R&D in 1987–88, a figure which, whilst still relatively low compared with the spending of comparable OECD countries, represents an increase of 14 per cent over 1986–87 expenditure. Private non-profit organisations in 1987–88 spent $50 million on R&D.

Statistics on Science and Technology

Expenditure and human resources devoted to research and experimental development

The Australian Bureau of Statistics' Surveys of Research and Experimental Development provide comprehensive data on research and experimental development activities in Australia by organisations in the business enterprise, general government, higher education and private non-profit sectors. They also provide some data on other innovative activities, such as technical know-how payments and receipts and patenting activity. Activities not covered by the survey include scientific or technological services, extension services, education and training, etc.

The first comprehensive survey on R&D was carried out for the financial year 1968–69. There have been six major surveys since then, the latest for which comprehensive results are available being in respect of 1986–87 (1986 calendar year for the Higher Education Sector). Less detailed data in respect of 1987–88 are available from the smaller 'inter year' R&D survey conducted by the Bureau.

The estimate of gross expenditure on R&D (GERD) carried out in Australia, as derived from the results of the 1987–88 survey, is $3,546 million. This represents a 9 per cent increase compared with the 1986–87 survey. At constant (1984–85) prices, GERD increased by 2 per cent over the same period. The total estimate of human resources devoted to R&D during 1987–88 in Australia was 60,907 person years; this represented a 4 per cent increase compared with the 1986–87 survey.

See Year Book No. 70 for a detailed description of survey methods and concepts.

Definitions

The survey's definitions follow guidelines described by the OECD for national R&D surveys. The OECD defines R&D as comprising 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications'. The Bureau provides sector specific definitions which clarify the OECD definitions for respondents and users (*see* ABS catalogue 8112.0).

Survey results

A summary of results from the 1984–85, 1986–87 and 1987–88 surveys is presented below.

HUMAN RESOURCES OF EFFORT DEVOTED TO RESEARCH AND EXPERIMENTAL DEVELOPMENT, AUSTRALIA

(person years)

Sector	*1984–85*	*1986–87*	*1987–88*
Business Enterprises—			
Private Sector	11,001	14,919	15,535
Public Sector	1,238	1,375	1,327
General Government—			
Commonwealth	11,119	11,429	11,706
State	6,018	6,588	7,046
Higher Education—			
Universities	19,814	21,710	22,435
CAEs	1,030	1,529	1,888
Private non-profit	712	946	970
Total	**50,932**	**58,495**	**60,907**

GROSS EXPENDITURE ON RESEARCH AND EXPERIMENTAL DEVELOPMENT (GERD) CARRIED OUT IN AUSTRALIA

GERD AT CURRENT AND AVERAGE 1984–85 PRICES

($ million)

Sector	*1984–85*	*1986–87*	*1987–88*
	AT CURRENT PRICES		
Business Enterprises—			
Private Sector	644	1,070	1,218
Public Sector	77	121	109
General Government—			
Commonwealth	669	782	807
State	286	355	378
Higher Education—			
Universities	663	846	930
CAEs	23	37	54
Private non-profit	43	49	50
Total	**2,406**	**3,260**	**3,546**
	AT AVERAGE 1984–85 PRICES		
Business Enterprises—			
Private Sector	644	919	973
Public Sector	77	104	91
General government—			
Commonwealth	669	690	663
State	286	311	311
Higher Education—			
Universities	680	752	789
CAEs	23	32	40
Private non-profit	44	45	44
Total	**2,423**	**2,853**	**2,909**

GROSS EXPENDITURE ON RESEARCH AND EXPERIMENTAL DEVELOPMENT (GERD) CARRIED OUT IN AUSTRALIA
GERD BY SECTOR BY SOURCE OF FUNDS
($'000)

Sector	*Total*	*Commonwealth government*	*State government*	*Business enterprises*	*Higher education*	*Private non-profit and other Australian*	*Overseas*
			1986–87				
Business Enterprises—							
Private Sector	1,069,576	52,861	3,925	999,658	269	329	13,530
Public Sector	120,715	8,664		111,055			—
General Government—							
Commonwealth	782,298	750,756	3,833	22,881	108	347	4,374
State	354,747	30,967	291,636	17,479	413	13,450	802
Higher Education							
Universities	846,377	790,400	9,010	9,659	8,943	22,120	6,245
CAEs	36,723	6,305	2,975	8,805	17,291	1,167	180
Private non-profit	49,107	19,843	6,705	2,211	411	15,468	4,468
Total	**3,259,542**	**1,659,796**	**318,084**	**1,171,748**	**27,436**	**52,881**	**29,600**
			1987–88				
Business Enterprises—							
Private Sector	1,217,958	47,541	1,772	1,147,615	197	553	20,279
Public Sector	109,322	6,317	1,100	101,723	—	162	20
General Government—							
Commonwealth	807,239	767,986	3,046	31,845	20	290	4,052
State	377,891	35,189	300,372	22,443	474	18,210	1,202
Higher Education							
Universities	929,842	865,948	10,908	11,386	8,923	25,805	6,872
CAEs	53,807	10,694	5,269	11,567	24,807	1,043	426
Private non-profit	49,873	17,859	4,046	5,366	782	17,551	4,270
Total	**3,545,933**	**1,751,534**	**326,512**	**1,331,946**	**35,204**	**63,614**	**37,121**

Business enterprise sector

The estimate of expenditure on R&D carried out in Australia by private and public business enterprises during 1986–87 is $1,327 million at *current* prices. This represents a 11 per cent increase in expenditure compared with 1984–85. At average 1984–85 prices, R&D expenditure is estimated to have increased by 4 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY BUSINESS ENTERPRISES (a), AUSTRALIA DETAILS OF RESOURCES DEVOTED TO R&D BY INDUSTRY OF ENTERPRISE

Industry of enterprise		*Enterprises (number)*		*Expenditure on R&D ($m)*				*Person years of effort on R&D*			
ASIC Code	*Description*	*1984–85r*	*1986–87*	*1984–85r*	*1985–86(b)r*	*1986–87*	*1987–88(b)*	*1984–85r*	*1985–86(b)r*	*1986–87*	*1987–88(b)*
11–15	*Mining (excluding services to mining)*	*31*	*37*	*29.8*	*n.a.*	*51.1*	*n.a.*	*297*	*n.a.*	*347*	*n.a.*
	Manufacturing—										
21	Food, beverages and tobacco	92	98	30.9	n.a.	55.0	n.a.	658	n.a.	780	n.a.
23–24	Textiles, clothing and footwear	27	35	5.6	n.a.	12.9	n.a.	57	n.a.	119	n.a.
25	Wood, wood products and furniture	29	46	3.4	n.a.	6.3	n.a.	69	n.a.	118	n.a.
26	Paper, paper products, printing and publishing	22	31	6.4	n.a.	9.9	n.a.	139	n.a.	157	n.a.
27	Chemical, petroleum and coal products	180	268	91.1	96.8	120.1	133.9	1,576	1,596	1,841	1,861
28	Non-metallic mineral products	33	37	12.9	n.a.	14.9	n.a.	223	n.a.	172	n.a.
29	Basic metal products	32	45	46.1	66.7	63.2	80.8	681	889	861	879
31	Fabricated metal products	92	125	15.6	n.a.	21.5	n.a.	309	n.a.	379	n.a.
32	Transport equipment	65	96	90.1	124.3	127.3	141.7	1,476	1,702	1,552	1,701
334	Photographic, professional and scientific equipment	30	64	16.5	n.a.	25.3	n.a.	283	n.a.	426	n.a.
335	Appliances and electrical equipment	286	581	84.4	117.0	173.3	196.0	1,611	1,982	2,814	2,989
336	Industrial machinery and equipment	177	244	28.5	n.a.	41.8	n.a.	566	n.a.	694	n.a.
34	Miscellaneous manufacturing	77	97	8.5	n.a.	19.9	n.a.	178	n.a.	313	n.a.
C	*Total manufacturing*	*1,142*	*1,767*	*440.1*	*555.4*	*691.3*	*n.a.*	*7,824*	*8,824*	*10,226*	*n.a.*
	Other industries—										
F	Wholesale and retail trade	194	287	36.5	n.a.	70.2	n.a.	641	n.a.	1,033	n.a.
63	Property and business services	450	567	82.2	n.a.	163.4	n.a.	1,311	n.a.	2,141	n.a.
8461	Research and scientific institutions	43	79	28.8	n.a.	44.8	n.a.	497	n.a.	636	n.a.
(c)	Other n.e.c.	125	201	105.7	n.a.	169.5	n.a.	1,691	n.a.	1,911	n.a.
16, D–L	*Total other industries*	*812*	*1,134*	*253.1*	*n.a.*	*447.8*	*n.a.*	*4,140*	*n.a.*	*5,721*	*n.a.*
	Total all industries	**1,985**	**2,938**	**723.0**	**922.1**	**1,190.3**	**1,327.3**	**12,260**	**14,128**	**16,294**	**16,861**
	Private Sector Contribution	1,938	2,879	645.7	826.4	1,069.6	1,218.0	11,022	12,775	14,919	15,535
	Public Sector Contribution	47	59	77.3	95.7	120.7	109.3	1,238	1,353	1,375	1,326

(a) Excludes enterprises in ASIC Division 'A'. *(b)* Represents the most detailed data available for 1985–86 and 1987–88. Manufacturing total not equal to sum of manufacturing component.
(c) ASIC codes 16,D,E,G,H,61–62,J,8141–8306,8462–8495,L.

Payments and receipts for patent licence fees and other technical know-how

Many Australian business enterprises supplement their R&D efforts by either purchasing or licensing foreign or Australian technology. Data for 1984–85 and 1986–87 are presented below.

PAYMENTS AND RECEIPTS FOR TECHNICAL KNOW-HOW BY BUSINESS ENTERPRISES*(a)*, AUSTRALIA, PAYMENTS AND RECEIPTS BY INDUSTRY OF ENTERPRISES
($ million)

Industry of enterprise		*Payments for technical know-how*		*Receipts for technical know-how*	
ASIC Code	*Description*	*1984–85*	*1986–87*	*1984–85*	*1986–87*
	Manufacturing—				
21	Food, beverages and tobacco	16.8	23.9	1.1	3.5
23–24	Textiles, clothing and footwear	8.9	n.p.	n.p.	n.p.
25	Wood, wood products and furniture	0.1	0.2	.p.	0.6
26	Paper, paper products, printing and publishing	4.1	4.0	n.p.	n.p.
27	Chemical, petroleum and coal products	39.1	53.3	6.6	6.2
28	Non-metallic mineral products	7.8	1.4	n.p.	n.p.
29	Basic metal products	4.7	9.8	6.1	n.p.
31	Fabricated metal products	2.3	3.9	1.1	1.2
32	Transport equipment	17.4	35.5	n.p.	1.0
334	Photographic, professional and scientific equipment	n.p.	n.p.	n.p.	n.p
335	Appliances and electrical equipment	28.3	48.5	n.p.	3.8
336	Industrial machinery and equipment	n.p.	8.3	1.4	n.p.
34	Miscellaneous manufacturing	4.9	10.9	n.p.	n.p.
C	*Total manufacturing*	*146.6*	*236.2*	*23.8*	*44.9*
	Other industries—				
F	Wholesale and retail trade	4.3	11.5	0.5	6.2
63	Property and business services	8.0	7.7	6.2	43.5
8461	Research and scientific institutions	n.p.	n.p.	n.p.	3.0
(b)	Other n.e.c.	n.p.	n.p.	n.p.	8.7
11–16, D–L	*Total other industries*	*19.9*	*41.2*	*12.3*	*61.5*
	Total all industries	**166.5**	**277.4**	**36.1**	**106.4**

(a) Excludes enterprises in ASIC Division 'A'. *(b)* ASIC Codes 11–16,D,E,G,H,61–62,J,8141–8306,8462–8495,L.

General government sector

The estimate of expenditure on R&D carried out in Australia by organisations in the general government sector during 1987–88 was $1,185 million at *current* prices. This represents a 4 per cent increase in expenditure compared with 1984–85. At average 1984–85 prices, R&D expenditure is estimated to have decreased by 3 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY GENERAL GOVERNMENT ORGANISATIONS, AUSTRALIA DETAILS OF RESOURCES DEVOTED TO R&D BY SOCIO-ECONOMIC OBJECTIVE

	Expenditure on R&D ($m)		*Person years of effort on R&D*	
Socio-economic objective	*1984–85*	*1986–87*	*1984–85*	*1986–87*
National security (Defence)	*151.0*	*175.1*	*3,232*	*3,146*
Economic development—				
Agriculture	321.0	388.0	5,850	6,491
Forestry and fisheries	48.1	63.3	924	1,055
Mining (prospecting)				
Energy sources	12.8	15.5	202	196
Other	23.2	28.5	344	393
Mining (extraction)				
Energy sources	7.9	2.8	120	42
Other	8.4	7.6	138	127
Manufacturing	103.8	119.1	1,725	1,697
Construction	13.3	14.3	265	261
Energy	51.8	45.7	644	541
Transport	16.9	16.5	220	280
Communications	0.3	1.3	6	10
Economic services n.e.c.	20.2	14.4	404	324
Total economic development	*627.5*	*716.9*	*10,840*	*11,415*
Community welfare—				
Urban and regional planning	0.4	1.7	12	40
Environment	36.0	42.6	692	640
Health	42.8	56.9	1,067	1,192
Education	5.9	6.7	145	151
Welfare	3.7	7.1	86	118
Community services n.e.c.	9.1	19.1	175	227
Total community welfare	*97.9*	*134.2*	*2,177*	*2,366*
Advancement of knowledge—				
Earth, ocean and atmosphere n.e.c.	72.7	102.5	778	914
General advancement of knowledge	6.2	8.4	109	176
Total advancement of knowledge	*78.9*	*110.9*	*887*	*1,090*
Total	**955.3**	**1,137.0**	**17,136**	**18,017**

Higher education sector

The estimate of expenditure on R&D carried out in Australia by higher education organisations during 1986 is $882 million at *current* prices. This represents a 29 per cent increase in expenditure compared with 1984. At average 1984–85 prices, R&D expenditure is estimated to have increased by 11 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY HIGHER EDUCATION ORGANISATIONS, AUSTRALIA
R&D EXPENDITURE BY SOCIO-ECONOMIC OBJECTIVE

	Expenditure on R&D ($m)					
	1984			*1986*		
Socio-economic objective	*Total*	*Universities*	*CAEs*	*Total*	*Universities*	*CAEs*
National security (Defence)	*1.2*	*1.2*	—	*1.9*	*1.7*	*0.2*
Economic development—						
Agriculture	58.9	57.3	1.5	74.2	72.2	2.0
Forestry and fisheries	8.2	8.0	0.2	9.0	8.6	0.4
Mining (prospecting)						
Energy sources	1.8	1.7	0.1	4.0	3.7	0.3
Other	3.4	3.2	0.1	7.2	7.0	0.2
Mining (extraction)						
Energy sources	1.0	1.0	0.1	0.8	0.8	—
Other	3.6	3.3	0.3	6.9	5.8	1.1
Manufacturing	18.6	16.1	2.4	29.5	24.9	4.6
Construction	7.2	6.9	0.3	8.9	8.0	0.8
Energy	25.4	23.7	1.7	27.6	25.6	1.9
Transport	3.7	3.2	0.5	4.2	3.6	0.6
Communications	6.0	5.5	0.4	9.4	8.4	1.0
Economic services n.e.c.	18.6	17.5	1.1	34.0	31.2	2.7
Total economic development	*156.4*	*147.6*	*8.8*	*215.7*	*200.0*	*15.7*
Community welfare—						
Urban and regional planning	4.3	4.1	0.2	6.0	5.6	0.3
Environment	12.6	11.5	1.0	17.2	15.6	1.6
Health	139.8	134.8	5.0	186.4	179.4	7.0
Education	26.6	23.6	3.0	35.5	31.6	4.0
Welfare	8.3	8.0	0.3	10.0	9.1	0.9
Community services n.e.c.	13.3	12.5	0.8	19.2	17.6	1.6
Total community welfare	*204.8*	*194.5*	*10.4*	*274.3*	*258.9*	*15.4*
Advancement of knowledge—						
Earth, ocean and atmosphere n.e.c.	42.3	41.8	0.6	49.2	48.6	0.6
General advancement of knowledge	281.0	278.1	2.9	340.8	336.0	4.8
Total advancement of knowledge	*323.3*	*319.9*	*3.5*	*390.0*	*384.6*	*5.4*
Total	**685.7**	**663.1**	**22.7**	**881.9**	**845.2**	**36.6**

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY HIGHER EDUCATION ORGANISATIONS, AUSTRALIA HUMAN RESOURCES DEVOTED TO R&D BY SOCIO-ECONOMIC OBJECTIVE

	Person years of effort on R&D					
	1984			*1986*		
Socio-economic objective	*Total*	*Universities*	*CAEs*	*Total*	*Universities*	*CAEs*
National security (Defence)	*29*	*28*	*1*	*52*	*39*	*12*
Economic development—						
Agriculture	1,922	1,863	59	2,031	1,969	62
Forestry and fisheries	282	265	17	256	237	19
Mining (prospecting)						
Energy sources	71	56	15	110	93	17
Other	108	96	12	206	194	12
Mining (extraction)						
Energy sources	34	33	1	23	21	2
Other	128	110	18	202	165	37
Manufacturing	625	522	103	922	710	212
Construction	225	210	15	240	214	26
Energy	769	706	64	729	653	76
Transport	129	108	22	118	89	29
Communications	196	175	21	306	249	58
Economic services n.e.c.	443	399	45	736	630	106
Total economic development	*4,933*	*4,542*	*391*	*5,879*	*5,222*	*657*
Community welfare—						
Urban and regional planning	116	107	9	149	134	16
Environment	422	377	45	490	424	66
Health	4,140	3,902	238	4,778	4,492	285
Education	891	767	124	947	805	141
Welfare	245	232	13	269	229	41
Community services n.e.c.	337	304	33	472	398	75
Total community welfare	*6,151*	*5,688*	*462*	*7,106*	*6,482*	*624*
Advancement of knowledge—						
Earth, ocean and atmosphere n.e.c.	1,135	1,097	38	1,163	1,136	26
General advancement of knowledge	8,597	8,458	139	9,043	8,834	209
Total advancement of knowledge	*9,732*	*9,556*	*176*	*10,205*	*9,970*	235
Total	**20,844**	**19,814**	**1,030**	**23,242**	**21,710**	**1,529**

Private non-profit sector

The estimate of expenditure on R&D carried out by private non-profit organisations during 1986–87 was $49.1 million at *current* prices. This represents a 13 per cent increase in expenditure compared with 1984–85. At average 1984–85 prices, R&D expenditure is estimated to have increased by 2 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY PRIVATE NON-PROFIT ORGANISATIONS, AUSTRALIA
DETAILS OF RESOURCES DEVOTED TO R&D BY SOCIO-ECONOMIC OBJECTIVE

	Expenditure ($'000)		*Person years of effort on R&D*	
Socio-economic objective	*1984–85*	*1986–87*	*1984–85*	*1986–87*
National security (Defence)	—	—	—	—
Economic development—				
Agriculture	55	69	2	3
Forestry and fisheries	—	35	—	1
Mining (prospecting)				
Energy sources	—	—	—	—
Other	n.p.	—	n.p.	—
Mining (extraction)				
Energy sources	—	—	—	—
Other	—	—	—	—
Manufacturing	—	267	—	3
Construction	n.p.	—	n.p.	—
Energy	535	303	8	4
Transport	n.p.	52	n.p.	1
Communications	3	—	1	—
Economic services n.e.c.	780	1,363	18	28
Total economic development	*2,116*	*2,089*	*41*	*40*
Community welfare—				
Urban and regional planning	397	358	6	4
Environment	4	564	—	16
Health	38,801	43,496	615	833
Education	1,228	1,200	24	20
Welfare	558	882	16	23
Community services n.e.c.	88	10	2	—
Total community welfare	*41,075*	*46,511*	*662*	*896*
Advancement of knowledge—				
Earth, ocean and atmosphere n.e.c.	45	48	1	2
General advancement of knowledge	251	459	8	8
Total advancement of knowledge	*296*	*507*	*9*	*10*
Total	**43,488**	**49,107**	**712**	**946**

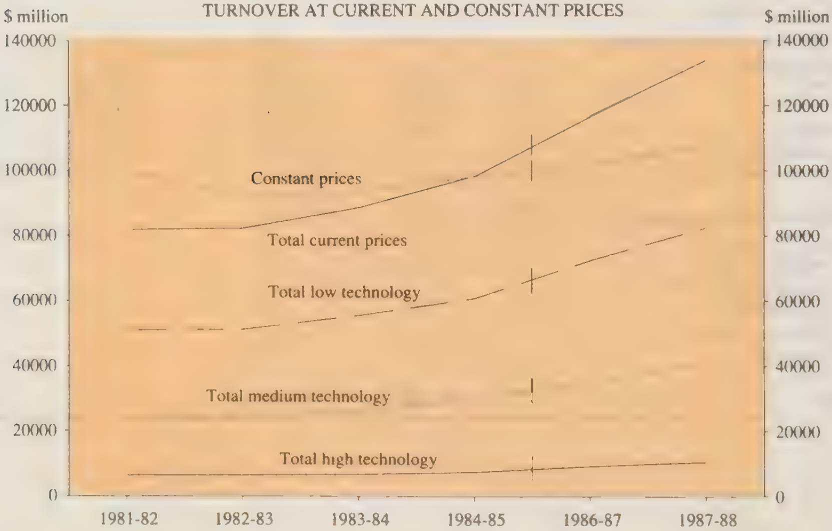
Statistics on manufacturing industry technology

The level of technological development in manufacturing industry can be viewed by classifying industries to high, medium and low technology according to the intensity of their R&D effort. Using the OECD classification by this method, high technology industries are defined as those manufacturing establishments classified to aircraft (Australian Standard Industrial Classification (ASIC) Class 3244); communications and other electronic equipment (ASIC Classes 3351 and 3352); electrical appliances and machinery (ASIC Classes 3353–3357); pharmaceutical and veterinary products (ASIC Class 2763); and photographic, professional and scientific equipment (ASIC Group 334). Medium technology covers chemicals (apart from ASIC Class 2763); petroleum and coal products; non-ferrous metals and basic products; motor vehicles and parts, railway equipment and other transport equipment (ASIC Class 3245); industrial machinery; rubber and plastic products; and, other manufacturing (ASIC Group 348). Low technology covers food, beverages and tobacco; textiles, clothing and footwear; wood and wood products; paper and paper products, etc.; petroleum refining; non-metallic mineral products, basic iron and steel products; fabricated metal products; ships and boats; and, leather products.

The figure below shows that high technology industries as a group showed current price growth in turnover in the six year period from 1981–82 to 1987–88 (64 per cent). Low and medium technology groups have performed comparably with growths of 62 per cent and 67 per cent respectively. In constant prices terms, total manufacturing industry turnover has shown growth of (8 per cent over the period), with most of this growth occurring between 1986–87 and 1987–88.

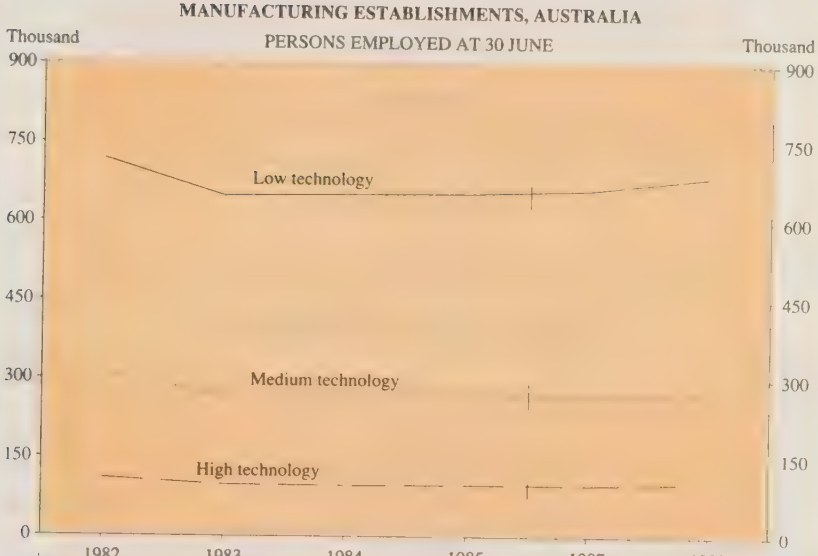
MANUFACTURING ESTABLISHMENTS, AUSTRALIA

TURNOVER AT CURRENT AND CONSTANT PRICES



Indicates break in series. No census conducted in 1985-86.

The following figure shows a downturn in manufacturing industry employment levels (net drops of 6 per cent, 12 per cent and 4 per cent for high, medium and low technology industries respectively). Data for the latest year available show rises between 30 June 1987 and 30 June 1988 for high, medium and low technology industries (4.8 per cent 3.1 per cent and 3.9 per cent respectively).



MANUFACTURING ESTABLISHMENTS, AUSTRALIA

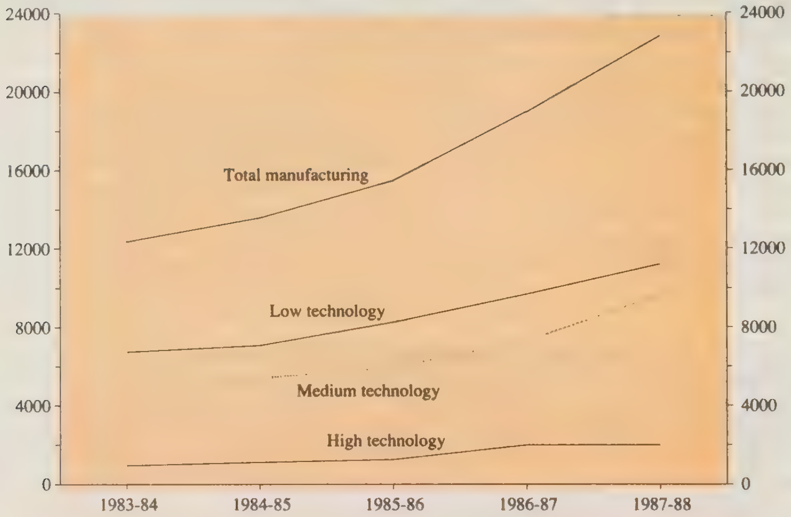
PERSONS EMPLOYED AT 30 JUNE

| Indicates break in series. No census conducted in 1985-86.

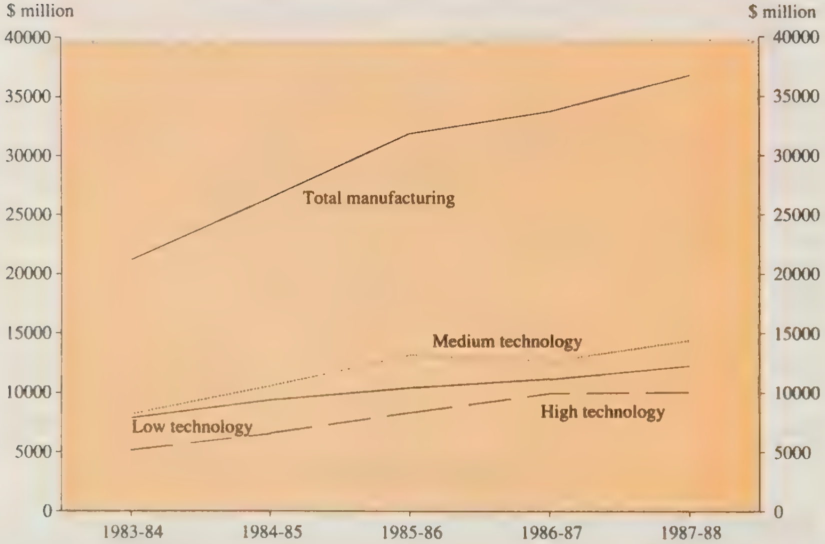
Other Activities

For information on other activities related to science and technology, *see Year Book* No. 70. That edition contains information on scientific and technological information services (page 640), social science and humanities research (page 652) and international activities (page 653).

EXPORTS OF MANUFACTURES, AUSTRALIA



IMPORTS OF MANUFACTURES, AUSTRALIA



Additional Information

Additional information on topics presented in this chapter may be found in the annual reports of the organisations mentioned, particularly the Department of Industry, Technology and Commerce, the CSIRO, the Australian Nuclear Science and Technology Organisation, the Department of Defence, and in the annual *Science and Technology Statements*. Statistical information on R&D for the years 1968–69, 1973–74 and 1976–77 may be found in the reports on Project SCORE published by the (then) Department of Science. Statistical information on R&D relating to 1978–79, 1981–82, 1984–85, 1985–86 and 1986–87 may be obtained from the Australian Bureau of Statistics (ABS). Further statistical information on higher education is obtainable from the Commonwealth Tertiary Education Commission. Trade and industry operations data are available from the ABS.

The Department of Industry, Technology and Commerce's *Australian Science and Technology Indicators Report*, published in 1988, uses S&T indicators to give a good overview and analysis of science and technology information in Australia. It presents information on R&D effort and expenditure, science and technology workforce, S&T information resources, scientific equipment and facilities, literature-based S&T measures, patent activity, technology training, financial support for technological development, industry operations and trade by level of technology, and transfer of technical knowledge.

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23

PRIVATE FINANCE

This chapter contains statistics on the activities and structure of financial institutions including banks, building societies, insurance companies, finance companies, credit unions and cooperative societies together with descriptions of their operations and relevant controlling legislation.

MONEY

Currency

Australia has a decimal system of currency, the unit being the dollar which is divided into 100 cents. Australian notes are issued in the denominations of $5, $10, $20, $50 and $100 and coins in the denominations of 1c, 2c, 5c, 10c, 50c, $1 and $2. The $1 and $2 notes were replaced by coins in 1984 and 1988 respectively.

AUSTRALIAN NOTES ON ISSUE
($ million)

	Last Wednesday in June—					
	1984	*1985*	*1986*	*1987*	*1988*	*1989*
$1	58.2	45.1	43.7	41.6	39.9	38.1
$2	168.6	179.1	179.9	178.7	162.0	57.4
$5	183.1	192.1	202.2	213.0	225.4	236.7
$10	512.9	518.1	524.8	527.6	565.7	630.2
$20	2,235.6	2,284.9	2,285.2	2,315.7	2,435.4	2,478.3
$50	3,450.4	3,420.5	3,461.7	3,586.2	3,859.7	3,991.6
$100	595.6	1,542.4	2,238.6	2,974.8	3,922.6	4,766.7
Total	**7,204.5**	**8,182.1**	**8,936.1**	**9,837.6**	**11,210.6**	**12,198.9**
Held by banks	*786.7*	*833.3*	*894.3*	*937.4*	*933.9*	*995.8*
Held by public	*6,417.8*	*7,348.8*	*8,041.9*	*8,900.2*	*10,276.7*	*11,203.1*

AUSTRALIAN DECIMAL COIN: NET ISSUES BY RESERVE BANK
($ million)

	Year ended June—					
	1984	*1985*	*1986*	*1987*	*1988*	*1989*
1c	1.0	1.1	1.3	1.3	1.4	1.2
2c	1.4	1.5	1.3	1.9	2.1	1.3
5c	3.5	2.7	3.8	4.6	5.5	2.7
10c	5.2	—	3.4	4.8	5.7	2.9
20c	6.9	–9.6	3.0	2.7	5.4	–6.4
50c	9.4	1.2	–0.5	3.2	5.8	–3.4
$1	107.2	86.6	25.5	16.3	21.7	–26.3
$2	—	—	—	—	62.7	239.6
Total	**134.6**	**83.5**	**37.8**	**34.7**	**110.4**	**211.5**

For additional information on note issues and coinage, refer to the List of Special Articles towards the back of this Year Book.

Volume of money

Statistics of the volume of money in the following table include notes and coins in the hands of the public, deposits of the public with trading banks (including the Reserve Bank) and deposits with all savings banks. Volume of money is a measure of specified financial assets held by the non-bank public.

The financial assets included in the volume of money in the table represent only part (albeit a major part) of the public's total holdings of liquid financial assets. An expanded view of the volume of money would include the public's holdings of such other claims as finance company debentures, deposits and shares of building societies, loans to authorised dealers in the short-term money market, government securities, etc.

VOLUME OF MONEY
($ million)
(*Source*: **Reserve Bank of Australia)**

Average of weekly figures for June	*Notes and coins in the hands of public*	*Deposits of public with all trading banks*		*Certificates of deposits (b)*	*Deposits with all savings banks*	*Total volume of money*
		Current(a)	*Fixed(a)*			
1984	6,983	12,663	19,393	3,850	33,819	76,708
1985	8,009	14,451	24,795	5,615	37,243	90,113
1986	8,717	14,637	32,427	4,715	41,371	101,867
1987	9,598	17,046	34,493	2,544	51,218	114,899
1988	10,978	20,619	35,121	3,016	60,434	130,168
1989	12,193	22,107	48,067	12,347	70,282	164,996

(*a*) Excludes deposits of the Commonwealth and State Governments and inter-bank deposits (*b*) Excludes holdings of the Commonwealth and State Governments and banks.

FINANCIAL LEGISLATION

Commonwealth legislation for economic management

With Federation in 1901 the new Commonwealth Parliament was given power under Section 51 of the Commonwealth Constitution to legislate with respect to 'Banking, other than State Banking, also State Banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. In 1911 the Commonwealth entered the field of banking with the establishment of the Commonwealth Bank of Australia, which conducted both trading bank and savings bank operations.

From 1911 to 1945 the functions of central banking became more and more the responsibility of the Commonwealth Bank, and in 1945 the Commonwealth Parliament directed it to act as a central bank. In the ensuing period of economic growth and financial development, the need for effective regulatory control of finance through banks became increasingly recognised. During 1959 the Commonwealth Parliament enacted the following legislation:

(a) The *Banking Act 1959* which applies to all banks operating in Australia, including the external territories of the Commonwealth, except State banks trading in their own State. The objects of the Act are:

  (i) to provide a legal framework uniform throughout Australia for regulating the banking system;

  (ii) to safeguard depositors of the banks from loss;

   (iii) to provide for the coordination of banking policy under the direction of the Reserve Bank;

   (iv) to control the volume of credit in circulation and bank interest rates; and

   (v) to provide machinery for the control of foreign exchange.

(b) The *Reserve Bank Act 1959* which provides for the constitution and management of the Reserve Bank of Australia, the administration of the *Banking Act 1959* and the management of the Australian note issue.

(c) The *Commonwealth Banks Act 1959* which provides for the constitution and management of the Commonwealth Banking Corporation, Commonwealth Bank of Australia, Commonwealth Savings Bank of Australia, and the Commonwealth Development Bank of Australia.

Notwithstanding the provisions of the above legislation, recent Australian governments have sought to decrease the degree of regulation imposed on the Financial Sector, and on banking activity in particular. Specifically, controls on most bank interest rates and foreign exchange have been relaxed. In addition, eighteen new private banks have been granted licences to commence operations.

Information on more specific aspects of the growth and control of the banking industry is contained in earlier issues of the *Year Book* (Nos 31, 37, 45, 46 and 61).

As a result of the further development of the financial market and the increasing significance in the market of the non-bank financial institutions such as finance companies, building societies and money market dealers, the *Financial Corporations Act 1974* was introduced. The object of this Act is to assist the government to achieve effective management of the Australian economy by providing a means for the examination and regulation of the activities of non-bank financial institutions having regard to economic stability, the maintenance of full employment, the efficient allocation of productive resources, the ensuring of adequate levels of finance for housing and the economic prosperity and welfare of the people of Australia. Details of the operation and application of the Act are given in *Year Book* No. 62, page 541.

Other Commonwealth legislation directly affecting financial institutions

Insurance

Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to 'insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned'. Commonwealth legislation includes the *Marine Insurance Act 1909* defining the limits of marine insurance and regulating the terms of contracts, etc.; the *Life Insurance Act 1945* generally regulating life insurance business in Australia; the *Insurance Act 1973* generally regulating general (non-life) insurance business in Australia and the *Insurance (Agents and Brokers) Act 1984*. The *Marine Insurance Act 1909* has limited application.

Life Insurance Act 1945

The objects of this Act are:

(a) to replace all State legislation on the subject of life insurance except that relating to the life insurance operations of State government insurance offices within the State concerned, and to provide uniform legislation for the whole of Australia;

(b) to appoint a Life Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection for policy holders; and

(c) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 20 June 1946. The Life Insurance Commissioner issues an annual report which contains detailed information on the operations of life insurance companies.

Insurance Act 1973
The objects of this Act are:

(a) to appoint an Insurance Commissioner to exercise active supervision of the financial activities of companies conducting general (non-life) insurance business, apart from State government insurance whether or not extending beyond the limits of the State concerned and other organisations specified in the Act, with a view to securing the greatest possible protection for policy holders; and

(b) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 19 June 1973. The Insurance Commissioner issues an annual report which contains detailed information on the operations of insurance companies.

Insurance (Agents and Brokers) Act 1984
The prime objective of the Act is to regulate the activities of insurance agents and brokers with a view to strengthening the financial stability of the industry overall. The Act received Royal Assent on 25 June 1984 although most of its regulatory provisions did not become operative until 1 January 1986.

State legislation

In each State there exists legislation designed to regulate the activities and monitor the solvency position of particular types of financial institutions which operate on a cooperative basis and lend predominantly to members or consumers. In general, they form the groups covered later in this chapter under the headings of Permanent Building Societies, Cooperative Housing Societies and Credit Cooperatives.

In some States there is also legislation for the incorporation of State government bodies which operate as banks or insurance offices. Though the regulations in Commonwealth legislation do not directly apply to these bodies, details of their operations have been included in the relevant parts of this chapter because they have agreed to supply information consistent with regulatory reports on a voluntary basis.

BANKS

Reserve Bank of Australia

The Reserve Bank of Australia preserved and continued in existence the original corporate body known as the Commonwealth Bank of Australia under the new name Reserve Bank of Australia.

The general functions of the Reserve Bank are set out in Section 10 of the *Reserve Bank Act 1959*, which states:

> 'It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that the powers of the Bank under this Act, the *Banking Act 1959*, and regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to:
>
> (a) the stability of the currency of Australia;
>
> (b) the maintenance of full employment in Australia; and
>
> (c) the economic prosperity and welfare of the people of Australia.'

Management

The policy of the Reserve Bank is determined by a Board consisting of the Governor (Chairman), the Deputy Governor, the Secretary to the Treasury, and seven other members appointed by the Governor-General. The Bank is managed by the Governor, who acts in accordance with the policy of the Board and with any directions of the Board. The Bank is required to inform the government of the monetary and banking policy of the Board. In the event of a disagreement between the government and the Board as to whether the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia, the Governor-General, acting with the advice of the Executive Council, may determine the policy to be adopted by the Bank.

Central Banking business

Under the *Commonwealth Bank Act 1911* and the war-time powers conferred by the National Security Regulations, the Commonwealth Bank gradually assumed the functions of a Central Bank. Part III of the *Commonwealth Bank Act 1945* formally constituted the bank as a Central Bank and granted the necessary powers to carry on the business of a Central Bank, these powers being carried through into the present Act constituting the Reserve Bank.

Note Issue Department

The Note Issue Department, established in 1920 when the control of the Australian note issue was transferred from the Commonwealth Treasury to the Commonwealth Bank, was maintained in the same form under the *Reserve Bank Act 1959*. The Reserve Bank may, through this Department, issue, re-issue and cancel Australian notes.

Rural Credits Department

The Rural Credits Department, established in 1925 for the purpose of making short-term credit available for the orderly marketing of primary produce, was continued in the same form under the *Reserve Bank Act 1959*. Following a determination by the Board under the Reserve Bank Act, the Treasurer directed that remaining capital and reserves of the Rural Credits Department be apportioned between the Reserve Bank Reserve Fund and the Commonwealth. The transfers were made on 22 July 1988.

RESERVE BANK OF AUSTRALIA: LIABILITIES AND ASSETS
(*Source:* Reserve Bank of Australia)
($ million)

LIABILITIES

				Deposits by banks(a)			
30 June—	*Capital and reserve funds*	*Special reserve— IMF special drawing right*	*Australian notes on issue*	*Non-callable deposits/ Statutory Reserve Deposit accounts*	*Other*	*All other liabilities*	*Total*
1984	4,266	305	7,237	2,409	14	2,658	16,888
1985	6,177	344	8,234	2,864	17	4,047	21,683
1986	6,602	371	8,915	3,289	24	4,841	24,042
1987	5,882	359	9,742	3,453	25	6,613	26,073
1988	4,665	314	11,364	3,547	480	4,724	25,094
1989	4,552	289	12,346	3,167	394	3,840	24,588

ASSETS

30 June—	*Gold and foreign exchange (b)*	*Common- wealth Government securities (c)*	*Loans, advances and bills discounted*	*Bank premises (d)*	*All other assets*	*Total*
1984	12,261	2,872	749	170	837	16,888
1985	13,245	6,487	381	342	1,229	21,683
1986	12,698	9,539	142	374	1,289	24,042
1987	17,259	7,197	131	370	1,117	26,073
1988	19,870	3,792	272	373	786	25,094
1989	19,997	3,310	169	499	613	24,588

(a) Arrangements for trading and savings banks to hold non-callable deposits with the Reserve Bank were established in September 1988. The arrangements also involved the repayment of Statutory Reserve Deposits previously lodged by trading banks. Associated with this change, the Bank's balance sheet no longer differentiates between trading and savings banks in respect of 'other' deposits by banks. *(b)* Includes currency at short call and International Monetary Fund drawing rights. *(c)* Includes Treasury bills and Treasury notes. *(d)* At cost, less amounts written off.

Trading Banks

Commercial banking in Australia is conducted by twenty-nine trading banks. Three large private trading banks, together with the Commonwealth Bank of Australia, are generally referred to as the major trading banks. These banks provide widespread banking facilities throughout Australia. The remaining twenty-five banks comprise four overseas banks, four State-owned banks and eighteen private banks.

The major trading banks are: Commonwealth Bank of Australia; Australia and New Zealand Banking Group; Westpac Banking Corporation; and the National Australia Bank Limited.

Liabilities and assets

Figures shown in the following table are the averages of liabilities and assets within Australia (including external territories) of banks at the close of business on Wednesdays during the month of June for the years shown.

ALL TRADING BANKS: LIABILITIES AND ASSETS IN AUSTRALIA(a)
(*Source*: Reserve Bank of Australia)
($ million)

LIABILITIES*(b)*

Average of weekly figures	*Deposits*				*Bill acceptances and all other liabilities*	*Total liabilities*
	Fixed	*Current*	*Other*	*Total*		
1984	25,029	13,499		38,528	20,994	59,521
1985	32,210	15,069		47,279	23,270	70,548
1986	38,650	15,686		54,336	29,514	83,850
1987	38,042	18,726		56,768	41,182	97,950
1988	38,797	22,637		61,434	59,335	120,770
1989*(c)*	61,939	22,780	1,234	85,952	64,338	150,289

ASSETS

Average of weekly figures	*Coin, Australian notes and cash with Reserve Bank*	*Non-callable/ Statutory Reserve Deposits with Reserve Bank(d)*	*Public sector securities*		*Loans to and placements with financial intermediaries*			*Other lending*	*Bills receivable and all other assets*	*Total assets*
			Commonwealth Government securities	*Other*	*Banks*	*Authorised dealers*	*Other*			
1984	678	2,409	6,399	96		320		31,751	20,973	62,627
1985	730	2,861	7,653	457		310		39,165	25,500	76,677
1986	810	3,301	8,972	639		903		48,847	33,898	97,370
1987	813	3,455	10,836	542		760		54,700	43,860	114,966
1988	844	3,557	13,413	457		1,028		62,265	64,194	145,758
1989*(c)*	894	2,976	13,423	1,234	9,234	1,569	3,243	82,585	66,768	181,925

(a) Excludes foreign currency. *(b)* Excludes shareholders' funds. *(c)* Break in series due to introduction of a new statistical return for banks from January 1989. *(d)* The Statutory Reserve Deposit Ratio was set to zero in September 1988 and balances transferred to non-callable deposit accounts.

Branches and agencies

At 30 June 1989 the major trading banks operated 4,578 branches, and the other trading banks, 855 branches. Of the total 5,433 branches, 2,922 were located in metropolitan areas. Trading bank facilities were also available at 1,221 agencies throughout Australia.

Debits to customers' accounts

TRADING BANKS: AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS (a)
($ million)

June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1984	26,971	19,075	5,389	2,124	3,449	402	167	1,223	58,800
1985	42,968	23,959	6,483	2,699	4,720	545	197	1,482	83,053
1986	58,972	26,514	6,765	3,194	5,289	502	220	1,894	103,352
1987	84,752	30,715	7,548	3,414	5,629	866	342	1,258	134,524
1988	135,387	40,564	11,682	4,222	5,865	731	365	1,595	200,410
1989	141,687	33,258	10,250	4,214	4,586	716	504	1,316	196,531

(a) Covers all trading banks and in addition the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank. Excludes debits to the Commonwealth and State Government accounts in capital cities.

INTEREST RATES AT 30 JUNE 1989
(*Source:* **Reserve Bank of Australia)**

	Per cent per annum
Fixed deposits (Less than $50,000)	
30 days	12.00
3 months	16.25
6 months	17.25
12 months	15.00
Overdrafts	
Less than $100,000	19.75/22.00
$100,000 and over	19.75

More detailed statistics relating to trading banks may be found in the monthly publication *Major Trading Banks Australia* (5603.0).

Savings Banks

Savings bank business in Australia is conducted by seventeen banks. These comprise subsidiaries of the four major trading banks, four State-owned banks, seven private banks, one trustee bank and one overseas bank.

All savings banks, including the trustee savings bank but not State savings banks, are subject to the *Banking Act 1959*.

Liabilities and assets

Figures shown in the following table are the averages of liabilities and assets within Australia (including external territories) of banks at the close of business on Wednesdays during the month of June for the years shown.

SAVINGS BANKS: LIABILITIES AND ASSETS IN AUSTRALIA
(*Source:* **Reserve Bank of Australia)**
($ million)

	June		
	1987	*1988*	*1989(a)*
	LIABILITIES*(b)*		
Depositors' balances	52,504	61,783	71,567
Bill acceptances and all other liabilities	4,777	7,389	10,446
Total liabilities	**57,281**	**69,173**	**82,013**
	ASSETS		
Coin, Australian notes and cash with Reserve Bank	196	547	386
Non-callable deposits with Reserve Bank			201
Commonwealth Government securities	7,403	8,906	7,805
Other public sector securities	6,441	6,016	4,013
Loans and placements with financial intermediaries	1,320	1,351	3,551
Other lending	40,359	49,479	64,485
Bills receivable and all other assets	3,980	5,673	5,587
Total assets	**59,699**	**71,972**	**86,027**

(a) Break in series due to introduction of a new statistical return for banks from January 1989. Also the basis of reporting was changed from the end of the month to weekly averages. Statistics for 1989 are shown as the weekly average for the month of June, and foreign currency is excluded. *(b)* Excludes shareholders funds.

Branches and agencies

At 30 June 1989 the savings banks operated 6,063 branches and 8,556 agencies of which 3,351 branches and 3,983 agencies were in metropolitan areas.

Development Banks

Commonwealth Development Bank of Australia

The Commonwealth Development Bank of Australia was established by the *Commonwealth Banks Act 1959* and commenced operations on 14 January 1960. It was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the former Commonwealth Bank of Australia. The functions of the Development Bank are to provide finance for the purpose of primary production (which includes fishing, forestry and all forms of rural activity) and for the establishment or development of small business undertakings (i.e. with shareholders'/proprietors' funds not exceeding $5 million) in cases where such finance is not otherwise available on reasonable and suitable terms and conditions.

Australian Resources Development Bank Limited

The Australian Resources Development Bank Limited was established in 1967 with equity capital of $3 million subscribed by the major trading banks. It was given the status of a bank under the *Banking Act 1959* and opened for business on 29 March 1968. The main object of the Australian Resources Development Bank is to assist Australian enterprises to participate more fully in the development of Australia's natural resources. It provides finance to enterprises engaged in major developmental projects by direct loans, investing in equity capital or by refinancing loans made by trading banks acting individually or as a group. The Australian Resources Development Bank obtains funds by accepting deposits and by borrowing on the Australian and overseas capital markets.

REGISTERED BUILDING SOCIETIES

Permanent Building Societies

A permanent building society is defined as an organisation that:

- is registered under relevant State or Territory legislation;
- has not by its rules any fixed date or certain event or result when it is to terminate;
- is authorised to accept money on deposit;
- operates on a cooperative basis by borrowing predominantly from its members and providing finance to its members principally in the form of housing loans.

In 1976 a statistical collection was introduced covering the financial accounts of permanent building societies in all States and Territories of Australia. The statistics below summarise information collected from the 59 permanent building societies balancing in the 1987–88 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0).

Information relating to the housing finance operations of permanent building societies is provided within this chapter and in the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

Summary statistics on the assets and selected liabilities of permanent building societies registered under the *Financial Corporation Act 1974* are also given within this chapter.

PERMANENT BUILDING SOCIETIES: LIABILITIES AND ASSETS (a)
($ million)

Liabilities	*1987–88*	*Assets*	*1987–88*
Share capital and reserves—		Loan outstandings—	
Non-withdrawable shares	210.3	Owner occupied housing	10,594.7
Withdrawable shares	7,998.8	Other	4,122.5
Reserves—		Cash on hand	61.4
Statutory	33.6	Placements and deposits with—	
Other *(b)*	693.7	Savings and Trading banks	747.5
Borrowings from residents—		Other financial institutions	477.4
Banks	410.1	Other businesses	23.8
Secured borrowings	587.4	Bills, bonds and other securities	4,921.9
Unsecured borrowings	11,275.8	Accounts receivable	83.2
Accounts payable	134.9	Physical assets	606.4
Other liabilities	335.1	Other assets	40.9
Total liabilities	**21,679.7**	**Total assets**	**21,679.7**

(a) At the balance dates of societies within the financial year shown. *(b)* Includes accumulated surpluses and deficits.

PERMANENT BUILDING SOCIETIES: INCOME AND EXPENDITURE
($ million)

Expenditure	*1987–88*	*Income*	*1987–88*
Interest and dividends on withdrawable shares	871.9	Income on deposits with banks	102.9
Interest on—		Income from—	
Borrowings from banks	34.7	Placements and other deposits	36.0
Secured borrowings	65.2	Holdings of securities	591.0
Unsecured borrowings	1,134.5	Interest on loans	2,085.2
Wages and salaries	190.9	Management fees	84.0
Management fees *(a)*	42.0		
Administrative expenses *(b)*	230.2	Other income	136.5
Other expenditure	212.1		
Total expenditure	**2,781.4**	**Total income**	**3,035.7**

(a) Represents payments made by societies to separate management companies. *(b)* Includes Permanent Building Society Association costs, advertising, bank charges and other administrative expenses.

Cooperative Housing Societies

A cooperative housing society is defined as an organisation that:

- is registered under the relevant State or Territory legislation;
- is not authorised to accept money on deposit;
- is only allowed to raise money on loans;
- only provides finance to its members in the form of housing loans;
- does not cause or permit applicants for loans to ballot for precedence or in any way make the granting of a loan dependent on any chance or lot.

The statistics below summarise information collected from the 2,084 cooperative housing societies balancing within the 1987–88 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Co-operative Housing Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0).

COOPERATIVE HOUSING SOCIETIES: LIABILITIES AND ASSETS (a)
($ million)

Liabilities	*1987–88*	*Assets*	*1987–88*
Share capital*(b)*	0.1	Amount owing on loans*(b)*	2,067.5
Accumulated funds*(c)*	29.3	Cash on hand and current accounts at banks	15.0
Loans from—		Deposits with—	
Banks	586.5	Banks	16.8
Commonwealth–State Home Builders' Fund*(d)*	1,060.0	Others	25.8
Others	438.1	Physical assets	0.5
Other liabilities	15.4	Other assets	3.8
Total liabilities	**2,129.4**	**Total assets**	**2,129.4**

(a) At the balance dates of societies within the financial year shown. *(b)* Borrowing members' subscriptions have been offset against 'Amount owing on loans'. *(c)* Includes accumulated surpluses and deficits. *(d)* Refers to loans made through the Commonwealth–State Housing Agreements.

COOPERATIVE HOUSING SOCIETIES: INCOME AND EXPENDITURE
($ million)

Expenditure	*1987–88*	*Income*	*1987–88*
Interest paid on borrowing members' subscriptions	1.4	Interest on—	
		Loans to members	225.5
Interest on loans from—		Other	4.3
Banks	77.2		
Other	145.3	Management fees	15.4
Salaries and secretarial fees	14.8		
Other expenditure	6.6	Other income	6.1
Total expenditure	**245.4**	**Total income**	**251.3**

CREDIT COOPERATIVES

A credit cooperative (or credit union) is defined as an organisation that:

- is registered under relevant State or Territory legislation;
- operates on a cooperative basis by predominantly borrowing from and providing finance to its own members.

Credit cooperative annual financial account statistics were first collected on a national basis from all registered credit cooperatives for the year 1974–75 when there were 738 credit cooperatives with a total of 909,547 members. The number of credit cooperatives operating in 1987–88 was 419 with 2,453,713 members. Comprehensive financial account statistics are provided in the annual publication *Credit Co–operatives: Assets, Liabilities, Income and Expenditure, Australia* (5618.0).

Statistics on the assets and selected liabilities of credit cooperatives registered under the *Financial Corporations Act 1974* which have assets in Australia exceeding $5 million are provided within this chapter.

CREDIT COOPERATIVES: LIABILITIES AND ASSETS(a)
($ million)

Liabilities	*1987–88*	*Assets*	*1987–88*
Share capital and reserves—		Loan outstandings*(b)*	5,581.2
Paid-up share capital	26.2	Cash on hand	42.2
Reserves—		Placements and deposits—	
Statutory	155.8	Banks	145.3
Other*(c)*	248.3	Credit cooperative associations, etc.	699.6
Borrowings—		Other	93.8
Banks	34.8	Bills, bonds and other securities	410.0
Credit cooperative associations, etc.	46.8	Accounts receivable	36.0
Deposits	6,708.9	Physical assets	232.2
Other borrowings	11.6	Other assets	59.9
Accounts payable	34.1		
Other liabilities	33.9		
Total liabilities	**7,300.3**	**Total assets**	**7,300.3**

(a) At the balance dates of credit unions within financial year shown. *(b)* Net of unearned interest and allowance for doubtful debts. *(c)* Includes accumulated surpluses and deficits.

CREDIT COOPERATIVES: INCOME AND EXPENDITURE
($ million)

Expenditure	*1987–88*	*Income*	*1987–88*
Interest on borrowings—		Interest on deposits with banks	14.4
Deposits	707.0	Income from—	
Other borrowings	5.5	Placements and other deposits	88.6
Wages and salaries	144.2	Securities	45.5
Administrative expenses*(a)*	119.8	Interest on loans	994.0
Insurance premiums paid	13.2	Management fees	9.1
Allowance for doubtful debts	24.7	Bad debts recovered	3.6
Other expenditure*(b)*	114.1	Other income	51.2
Total expenditure	**1,128.4**	**Total income**	**1,206.5**

(a) Includes financial institutions duty. *(b)* Includes bank accounts debit tax.

SHORT-TERM MONEY MARKET

Authorised money market corporations

For some years prior to 1959, leading stockbrokers were actively engaged in operations which formed the basis of a short-term money market in Australia. The stockbrokers' operations involved the acceptance of short-term funds which were secured against government securities. These operations were severely limited by the lack of suitable short-term securities and by liquidity constraints. In February 1959 the Central Bank established the Official Short-Term Money Market by making available 'lender of last resort' facilities to selected dealers.

There are eight authorised money market dealers. Under the 'lender of last resort' arrangements, dealers may borrow from the Reserve Bank for a minimum of seven days and at a rate designed to discourage excessive recourse to the facility.

They are required by the Reserve Bank to:

- accept loans overnight, at call or for fixed periods, in minimum amounts of $50,000 and invest these funds in Commonwealth Government and other approved securities;
- at all times be willing traders in the buying and selling of approved securities;
- have a minimum paid-up capital of $400,000 and adhere to a maximum limit on the ratio of loans to shareholders' funds;

- consult regularly with the Reserve Bank on all money market matters and furnish detailed information about their portfolios, operations, interest rates, balance sheets and profit and loss accounts.

The following table contains details of selected liabilities and assets, and interest rates. Additional information on authorised dealers collected under the *Financial Corporations Act 1974* is provided within this chapter.

SHORT-TERM MONEY MARKET: SELECTED LIABILITIES AND ASSETS AND INTEREST RATES OF AUTHORISED DEALERS
(*Source:* **Reserve Bank of Australia)**

	Liabilities to clients			*Asset holdings (face value)*			*Interest rates on loans accepted during month*				
							At call		*For fixed periods*		*Weighted average interest rate on loans outstanding (c)*
	All trading banks	*Other clients*	*Total*	*Cwealth Govt securities (a)*	*Commercial bills(b)*	*Banks certificates of deposit*	*Minimum*	*Maximum*	*Minimum*	*Maximum*	
Month	*Average of weekly figures—($ million)*						*Per cent per annum*				
June—											
1984	320	1,289	1609	1,181	449	231	1.00	17.46	4.00	13.75	11.42
1985	311	913	1,224	818	306	213	10.00	30.00	13.00	17.50	15.07
1986	902	414	1,316	981	286	207	4.00	22.50	11.75	13.00	13.20
1987	760	904	1,664	1,281	367	115	7.00	15.00	11.75	13.75	12.79
1988	1,028	762	1,790	1,187	502	214	5.25	16.00	10.65	12.00	11.79
1989	1,569	555	2,124	1,641	308	274	14.50	19.35	16.50	17.10	16.95

(*a*) Within 5 years of maturity. (*b*) Accepted or endorsed by banks. (*c*) Weighted average of rates paid on all days of the four or five weeks ending on the last Wednesday of the month.

Money market corporations

There are also companies without Reserve Bank 'lender of last resort' facilities which operate in a similar manner to authorised dealers. These companies are recognised under the *Financial Corporations Act 1974* in the category of money market corporations. This category consists of registered corporations whose short-term borrowings are a substantial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short-term money market and other liquidity placements, business loans and investments in government, commercial and corporate paper.

The category of money market corporations also includes registered corporations providing short-term finance but which are themselves financed by related corporations with funds raised on a short-term basis, as well as corporations which borrow principally short-term and lend predominantly to related money market corporations.

Statistics on money market corporations registered under the *Financial Corporations Act 1974* are contained in tables within this chapter.

FINANCE COMPANIES, GENERAL FINANCIERS, AUTHORISED MONEY MARKET DEALERS, MONEY MARKET CORPORATIONS AND OTHER FINANCIAL INSTITUTIONS

Information presented in the following tables has been compiled from returns collected under the *Census and Statistics Act 1905*, and first published for 1984–85, on the financial accounts of corporations registered under the *Financial Corporations Act 1974* and categorised as finance companies, general financiers, authorised money market dealers, money market corporations and other financial corporations. Descriptions of corporations in the various categories are:

(a) *Finance companies*: corporations which rely substantially on borrowing in financial markets in Australia and/or from abroad and whose provision of finance is predominantly in the form of business and commercial lending, instalment credit to finance retail sales by others and/or other loans to individuals.

(b) *General financiers*: corporations which lend predominantly for business and commercial purposes, instalment credit to finance retail sales of others and/or other loans to individuals but which do not rely substantially on borrowings in financial markets in Australia and from abroad.

(c) *Authorised money market dealers*: corporations which hold and deal in securities issued by the Australian Government and other securities; for that purpose, borrow money for short periods; and have entered into arrangements with the Reserve Bank which facilitate these operations.

(d) *Money market corporations*: corporations, other than authorised money market dealers, whose short term borrowings are a substantial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short term money market, other liquidity placements, business loans and investments in Government, commercial and corporate paper.

(e) *Other financial corporations*: registered corporations that are not categorised as building societies, authorised money market dealers, finance companies, credit cooperatives, pastoral finance companies, general financiers or intra group financiers.

A corporation comes within the ambit of the Financial Corporations Act if:

(a) Its sole or principal business activity in Australia is the borrowing of money and the provision of finance; and

(b) Its assets in Australia arising from the provision of finance exceed 50 per cent (or a different percentage if prescribed by regulation) of the value of its assets in Australia; and

(c) The combined value of the assets of the corporation and its related financial corporations exceeds $1 million.

More detailed descriptions and dissections of these statistics may be found in the following annual publications:

Finance Companies: Assets, Liabilities, Income and Expenditure, Australia (5616.0)

General Financiers and Other Financial Corporations: Assets, Liabilities, Income and Expenditure, Australia (5648.0)

Authorised Dealers and Money Market Corporations: Assets, Liabilities, Income and Expenditure, Australia (5650.0)

Additional information on these categories of corporations collected under the *Financial Corporations Act 1974* is provided within this chapter.

FINANCE COMPANIES: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)

($ million)

	1985–86	*1986–87*	*1987–88*
Assets—			
Loan outstandings*(b)(c)*	26,010.1	26,598.8	25,992.4
Cash and bank deposits	242.4	100.4	217.5
Other placements and deposits	743.1	953.8	1,394.4
Bills, bonds and other securities—			
Government and semi-government	119.3	35.5	83.9
Other	1,049.6	861.1	1,413.3
Other financial assets	394.0	520.8	573.4
Other assets	394.2	441.6	447.0
Total assets	**28,952.7**	**29,511.9**	30,121.9
Liabilities—			
Paid up capital	1,303.6	1,695.9	1,659.1
Reserves	714.5	641.3	655.6
Unappropriated profits	915.0	730.4	826.1
Borrowings from—			
Banks	1,245.4	1,201.0	1,754.8
Other	23,633.7	23,828.1	23,575.4
Other liabilities	1,140.6	1,415.2	1,650.9
Total liabilities	**28,952.7**	**29,511.9**	30,121.9
Income for year—			
Interest on—			
Loans	4,169.3	4,587.6	4,643.3
Deposits with banks	21.7	8.6	19.7
Other income	449.8	637.1	625.6
Total income	**4,640.9**	**5,233.3**	5,288.6
Expenditure for year—			
Interest on borrowed funds	3,027.2	3,586.6	3,382.8
Wages and salaries (including long service leave)	333.9	313.9	342.2
Other expenditure	789.2	958.2	1,086.3
Total expenditure	**4,150.3**	**4,858.7**	**4,811.3**

(a) At the balance date of corporations within the financial year shown. *(b)* After deducting provision for doubtful debts of $224.2 million in 1985-86, $294.9 million in 1986-87 and $345.0 million in 1987-88. *(c)* Includes finance lease receivables.

GENERAL FINANCIERS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)

($ million)

	1985–86	*1986–1987*	*1987–1988*
Assets—			
Loan outstandings*(b)(c)*	3,605.4	4,559.8	5,696.4
Cash and bank deposits	85.3	133.0	180.5
Other placements and deposits	252.3	269.0	491.0
Bills, bonds and other securities—			
Government and semi-government	65.4	73.8	18.4
Other	354.4	917.7	907.8
Other financial assets	124.7	143.7	146.0
Other assets	186.6	255.7	249.6
Total assets	**4,674.1**	**6,352.7**	**7,689.6**
Liabilities—			
Paid up capital	249.3	366.9	453.9
Reserves	151.1	147.2	107.6
Unappropriated profits	85.6	62.4	-1.0
Borrowings from—			
Banks	1,182.1	1,445.1	1,795.7
Other	2,844.8	4,092.6	5,118.0
Other liabilities	161.2	238.6	215.4
Total liabilities	**4,674.1**	**6,352.7**	**7,689.6**
Income for year—			
Interest on—			
Loans	616.7	732.5	807.9
Deposits with banks	3.3	6.9	20.3
Other income	144.1	282.3	252.1
Total income	**764.1**	**1,021.6**	**1,080.3**
Expenditure for year—			
Interest on borrowed funds	464.1	631.2	778.7
Wages and salaries (including long service leave)	43.3	45.3	48.2
Other expenditure	165.0	262.3	229.3
Total expenditure	**672.4**	**938.8**	**1,056.2**

(a) At the balance date of corporations within the financial year shown. *(b)* After deducting provision for doubtful debts $43.4 million in 1985-86, $39.6 million in 1986-87 and $74.3 million in 1987-88. *(c)* Includes finance lease receivables.

AUTHORISED MONEY MARKET DEALERS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)
($ million)

	1985–86	*1986–87*	*1987–88*
Assets—			
Loan outstandings	0.3	1.9	1.0
Cash and bank deposits	133.6	121.3	145.3
Other placements and deposits	4.4	77.3	1.0
Bills, bonds and other securities—			
Government and semi-government	1,608.3	2,010.3	3,232.4
Other	389.3	420.1	489.7
Other financial assets	15.1	20.6	13.9
Other assets	0.9	0.9	1.3
Total assets	**2,151.9**	**2,652.4**	**3,884.6**
Liabilities—			
Paid up capital	55.6	68.2	73.2
Reserves	3.5	11.4	11.4
Unappropriated profits	7.1	2.4	16.7
Borrowings from—			
Banks	1,652.3	1,618.6	2,901.5
Other	421.4	939.1	851.9
Other liabilities	10.1	12.6	29.9
Total liabilities	**2,151.9**	**2,652.4**	**3,884.6**
Income for year—			
Interest on—			
Loans	1.7	1.7	21.7
Deposits with banks	9.0	15.2	15.4
Other income	314.8	336.5	372.5
Total income	**325.5**	**353.3**	**409.6**
Expenditure for year—			
Interest on borrowed funds	318.8	330.8	354.9
Wages and salaries (including long service leave)	3.3	3.7	4.6
Other expenditure	18.2	18.7	50.1
Total expenditure	**340.3**	**353.2**	**409.6**

(a) At the balance date of corporations within the financial year shown.

MONEY MARKET CORPORATIONS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)

($ million)

	1985–86	*1986–87*	*1987–88*
Assets—			
Loan outstandings *(b)(c)*	11,307.3	15,416.7	19,754.8
Cash and bank deposits	1,272.9	1,436.2	1,156.2
Other placements and deposits	4,755.9	5,434.9	7,844.8
Bills, bonds and other securities—			
Government and semi-government	597.8	960.3	750.5
Other	5,812.0	9,336.4	12,155.5
Other financial assets	679.3	968.8	1,169.6
Other assets	409.7	1,203.8	914.2
Total assets	**24,834.9**	**34,756.9**	**43,745.6**
Liabilities—			
Paid up capital	1,081.8	1,656.1	2,077.8
Reserves	220.5	310.7	501.8
Unappropriated profits	219.3	342.8	408.9
Borrowings from—			
Banks	1,761.4	1,942.8	3,333.4
Other	20,872.3	29,346.8	35,787.3
Other liabilities	679.7	1,157.9	1,636.3
Total liabilities	**24,834.9**	**34,756.9**	**43,745.6**
Income for year—			
Interest on—			
Loans	1,341.8	2,085.9	2,870.8
Deposits with banks	136.7	162.6	223.0
Other income	2,321.3	3,303.1	4,191.4
Total income	**3,799.8**	**5,551.6**	**7,285.2**
Expenditure for year—			
Interest on borrowed funds	3,072.6	4,416.3	5,409.8
Wages and salaries (including long service leave)	174.5	210.1	294.7
Other expenditure	397.2	571.8	1,084.6
Total expenditure	**3,644.3**	**5,198.2**	**6,789.1**

(a) At the balance date of corporations within the financial year shown. *(b)* After deducting provision for doubtful debts of $66.8 million in 1985-86, $43.3 million in 1986-87 and $175.6 million in 1987-88. *(c)* Includes finance lease receivables.

OTHER FINANCIAL CORPORATIONS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)
($ million)

	1985–86	*1986–87*	*1987–88*
Assets—			
Loan outstandings*(b)*	68.0	53.9	76.7
Cash and bank deposits	26.4	37.4	52.3
Other placements and deposits	71.9	84.0	118.2
Bills, bonds and other securities—			
Government and semi-government	7.7	13.3	18.6
Other	155.3	240.8	279.3
Other financial assets	12.5	12.3	17.9
Other assets	6.7	7.7	7.1
Total assets	**348.6**	**449.3**	**570.1**
Liabilities—			
Paid up capital	6.8	7.0	5.3
Reserves	3.5	3.2	3.8
Unappropriated profits	0.5	1.3	2.0
Borrowings from—			
Banks	8.7	6.5	9.8
Other	319.6	414.7	525.3
Other liabilities	9.6	16.6	23.9
Total liabilities	**348.6**	**449.3**	**570.1**
Income for year—			
Interest on—			
Loans	9.7	9.8	8.6
Deposits with banks	9.8	5.3	5.9
Other income	61.1	64.0	63.4
Total income	**80.6**	**79.1**	**77.9**
Expenditure for year—			
Interest on borrowed funds	62.8	58.2	55.7
Wages and salaries (including long service leave)	6.0	6.2	7.0
Other expenditure	10.0	10.2	12.9
Total expenditure	**78.8**	**74.6**	**75.5**

(a) At the balance date of corporations within the financial year shown. *(b)* Includes financial lease receivables.

FINANCIAL CORPORATIONS STATISTICS

The statistics provided in the following tables have been compiled from returns supplied to the Australian Bureau of Statistics by corporations registered under the *Financial Corporations Act 1974* (FCA). A summary of the objects and content of the Financial Corporations Act is given in *Year Book* No. 62, page 541.

More detailed descriptions and dissections of these statistics may be found in the monthly publications *Building Societies, Australia* (5637.0); *Authorised Dealers and Money Market Corporations, Australia* (5638.0); *Finance Companies, Australia* (5639.0) and *Credit Co-operatives, General Financiers and Other Financial Corporations, Australia* (5640.0).

Descriptions of the categories *building societies, credit cooperatives, authorised money market dealers, money market corporations, finance companies, general financiers* and *other financial corporations* appear in the respective parts of this chapter. Descriptions of the other categories are as follows:

Pastoral finance companies—comprising corporations whose provision of finance is predominantly in the form of loans to rural producers largely associated with the provision of rural services.

Intra group financiers—comprising corporations which predominantly borrow within a corporation group and/or provide finance by lending within their corporation group or by investing in financial markets.

FINANCIAL CORPORATIONS, AUSTRALIA: SELECTED LIABILITIES AND ASSETS(a) (b)
($ million)

SELECTED LIABILITIES AS AT 30 JUNE 1989

	Borrowings from—				
	Residents				
Category	*By acceptance of bills of exchange and issue of promissory notes*	*Related corporations*	*Banks*	*Other*	*Non-residents*
Building societies	134.3	124.8	620.7	20,682.0	487.5
Credit cooperatives	n.a.	n.a.	36.7	6,678.4	n.a.
Authorised money market dealers	n.a.	21.6	2,271.5	213.0	—
Money market corporations	2,737.3	1,955.3	5,830.7	22,479.5	16,393.5
Pastoral finance companies	—	1,531.5	60.5	964.7	257.5
Finance companies	1,843.5	1,067.0	2,639.7	22,695.9	2,980.7
General financiers	202.1	2,200.3	2,018.5	3,716.6	1,343.4
Intra group financiers	90.4	2,110.3	2,119.8	1,411.4	1,624.9
Other financial corporations	—	4.0	13.0	834.2	—
Total	**5,007.6**	**9,014.8**	**15,611.1**	**79,675.7**	**23,087.5**

ASSETS AS AT 30 JUNE 1989

Category	*Cash and bank deposits*	*Loans to authorised dealers in the STMM and other placements and deposits*	*Bills of exchange and promissory notes purchased and held(c)*	*Other Government and public authority securities*	*Other securities*	*Other assets arising from the provision of finance (d)*	*All other assets in Australia*	*Assets overseas*	*Total assets*
Building societies	1,204.3	209.0	1,999.8	1,323.9	979.6	17,350.3	1,101.4	5.0	24,173.4
Credit cooperatives	147.7	498.0	172.3	61.0	14.7	6,214.3	336.8	—	7,444.7
Authorised money market dealers	265.5	12.8	353.8	1,999.7	—	0.5	22.4	—	2,654.7
Money market corporations	2,190.4	7,952.2	7,339.1	1,450.7	3,948.4	29,050.2	2,371.7	1,222.9	55,525.5
Pastoral finance companies	13.3	158.8	—	—	1,072.3	3,554.2	629.0	479.6	5,907.2
Finance companies	291.9	997.9	538.8	131.6	676.1	33,397.4	1,016.8	24.8	37,075.3
General financiers	614.8	810.4	1,436.3	3.2	148.4	7,518.0	397.3	7.9	10,936.2
Intra group financiers	56.8	471.3	42.3	—	111.8	5,703.3	1,715.1	—	8,100.7
Other financial corporations	77.5	250.4	284.2	3.9	97.8	147.6	28.6	—	889.9
Total	**4,862.2**	**11,360.8**	**12,166.6**	**4,974.0**	**7,049.1**	**102,935.8**	**7,619.1**	**1,740.2**	**152,707.6**

(a) Excludes credit cooperatives and general financiers with assets not exceeding $5 million. (b) Excludes transactions with related corporations in the same FCA category. (c) Excludes bills that have been drawn or accepted by reporting corporations. (d) Includes holdings of bills that have been drawn by reporting corporations and loans that have been re-financed by the sale of bills accepted by reporting corporations.

CASH MANAGEMENT TRUSTS

A monthly statistical collection was introduced in May 1983 to obtain information on the operations of cash management trusts. A cash management trust is a unit trust which is governed by a trust deed, is open to the public, generally confines its investments to financial securities available through the short term money market, and whose units are redeemable by the trustee to the unit holder on demand.

The following table summarises the financial operations of cash management trusts.

CASH MANAGEMENT TRUSTS

				Assets ($ million)					
June—	*Number of trusts*	*Units in issue at end of period ($ million)*	*Weighted average net yield at end of period (% per annum)*	*Cash and deposits with banks*	*All other deposits and loans*	*Bills of exchange purchased and held*	*Promissory notes purchased and held*	*Other assets*	*Total assets*
1987	19	3,162.9	13.29	304.8	530.1	2,107.6	355.9	72.5	3,370.9
1988	18	3,625.5	11.17	313.3	470.2	2,483.9	358.9	63.4	3,689.5
1989	19	3,646.1	16.79	636.3	800.6	1,837.8	435.3	39.2	3,749.2

PUBLIC UNIT TRUSTS

A quarterly statistical collection was introduced in September 1985 to obtain information on the operations of listed and unlisted public unit trusts.

A public unit trust is defined as an arrangement (fund) which is governed by a trust deed between a management company and a trustee company; is open to the public within Australia for the purpose of investing the pooled funds of unit holders to yield returns in the form of income and/or capital gains; and allows unit holders to dispose of their units within a relatively short period of time. These statistics exclude cash management trusts, private trusts and trusts exempted from providing redemption facilities (e.g. film and agricultural trusts).

The major distinction between a listed and an unlisted unit trust is that a listed unit trust's units must be listed on Australian Stock Exchanges and adhere to listing requirements similar to those for company shares.

The following tables summarise the financial operations of public unit trusts.

UNIT TRUSTS: SUMMARY

			Assets ($ million)				
Quarter	*Number of trusts*	*Units in issue at end of the period ($ million)*	*Shares*	*Property at the end of the quarter*	*Loan outstandings secured by mortgages on land and buildings*	*Other assets*	*Total assets*
			UNLISTED				
1987							
June	307	8,266.2	3,545.5	3,222.5	873.3	1,982.8	9,624.1
Sept.	324	10,114.1	4,846.5	3,339.5	969.8	2,628.5	11,784.3
Dec.	357	9,160.8	2,869.1	3,572.3	1,060.3	3,012.3	10,514.0
1988							
March	362	9,761.4	2,968.0	3,799.7	1,210.9	3,099.5	11,078.1
June	379	10,399.6	2,998.2	4,046.0	1,305.0	3,368.4	11,717.6
Sept.	387	11,260.3	3,091.0	4,439.8	1,576.9	3,219.1	12,326.8
Dec.	392	11,972.7	3,036.6	4,827.3	1,706.9	3,663.7	13,234.5
1989							
March	401	12,506.3	3,064.7	5,178.6	1,877.9	3,710.7	13,831.9
June	393	13,042.1	3,177.7	6,082.0	1,950.7	3,646.9	14,857.3
			LISTED				
1987							
June	55	5,893.5	256.0	3,196.2	8.4	2,856.2	6,316.8
Sept.	55	6,935.9	270.2	3,500.0	28.0	3,326.7	7,124.9
Dec.	57	6,177.9	222.6	4,077.9	26.3	3,473.1	7,799.9
1988							
March	56	6,825.9	176.1	4,403.7	25.6	3,423.5	8,028.9
June	57	7,748.6	193.7	4,834.3	25.8	4,398.3	9,452.1
Sept.	55	7,153.2	203.4	4,980.2	18.9	3,704.0	8,906.5
Dec.	54	7,723.3	418.1	5,744.0	0.3	4,207.4	10,369.8
1989							
March	53	7,934.8	423.3	6,054.1	0.2	4,303.4	10,781.0
June	51	7,474.2	391.4	6,254.9	33.0	4,139.0	10,818.3
			TOTAL				
1987							
June	362	14,159.7	3,801.5	6,418.7	881.7	4,839.0	15,940.9
Sept.	379	17,050.0	5,116.7	6,839.5	997.8	5,955.2	18,909.2
Dec.	414	15,338.7	3,091.7	7,650.2	1,086.6	6,485.4	18,313.9
1988							
March	418	16,587.3	3,144.1	8,203.4	1,236.5	6,523.0	19,107.0
June	436	18,148.2	3,191.9	8,880.3	1,330.8	7,766.7	21,169.7
Sept.	442	18,413.5	3,294.4	9,420.0	1,595.8	6,923.1	21,233.3
Dec.	446	19,696.0	3,454.7	10,571.3	1,707.2	7,871.1	23,604.3
1989							
March	454	20,441.1	3,488.0	11,232.7	1,878.1	8,014.1	24,612.9
June	444	20,516.3	3,569.1	12,336.9	1,983.7	7,785.9	25,675.6

LIFE INSURANCE

Statistics in the following tables have been derived from the publications of the Insurance and Superannuation Commission and relate to the life insurance business of companies with head offices in Australia and the Australian business of companies with head offices overseas. Also included are the life business operations reported by four State Government Insurance Offices.

Information contained in the following three tables does not relate to uniform accounting periods but to the balance dates of organisations falling within the calendar year shown.

LIFE INSURANCE OFFICES: LIABILITIES AND ASSETS
($ million)

	1985	*1986*	*1987*
Liabilities—Australian and overseas—			
Total balances of revenue accounts at end of year	34,395.7	43,914.3	55,397.0
Reserves	899.1	4,514.5	6,599.9
Total	*35,294.8*	*48,428.8*	*61,996.9*
Other liabilities—			
Bank overdraft	104.6	165.3	256.1
Deposits	230.7	825.5	1,038.9
Claims admitted	188.3	199.8	308.4
Sundry creditors	377.9	664.9	1,163.4
Provisions for taxation	1,055.6	2,260.9	2,860.9
Provision for superannuation and long-service leave	63.4	72.4	85.1
Miscellaneous liabilities	78.0	214.5	191.9
Total liabilities	**37,393.3**	**52,832.1**	**67,901.6**
Assets—Australia and overseas—			
Property and fixed assets	7,144.2	9,555.6	11,566.8
Loans	3,742.4	4,417.9	5,606.7
Investment	23,539.5	35,307.6	45,070.4
Cash and deposits	1,683.8	2,087.5	3,530.1
Outstanding premiums including advances of premiums	417.5	472.1	514.5
Outstanding interest, dividends and rents	533.2	530.9	608.8
Sundry debtors	262.9	413.5	582.2
Miscellaneous assets	69.8	47.0	422.1
Total assets	**37,393.3**	**52,832.1**	**67,901.6**

LIFE INSURANCE OFFICES: REVENUE AND EXPENDITURE
($ million)

	1985	*1986*	*1987*
Balance of Revenue Account at beginning of year—Australia and overseas	*27,620.4*	*34,395.7*	*43,395.8*
Revenue—			
Single premiums	1,368.8	3,211.1	7,294.1
Other premiums	4,089.4	4,651.9	5,423.3
Net interest	2,725.9	3,456.5	4,061.0
Net conversion and transfer values-in	(–)2.5	5.6	12.5
Net transfers from reserves and provisions within fund	(–)181.5	(–)2,075.8	(–)1,874.8
Other net transfers within statutory fund-in	(–)1.7	—	(–)5.7
Net profit (or loss) on realisation or revaluation of assets	2,458.1	5,865.2	4,337.5
Miscellaneous income	1,214.1	442.6	1,115.3
Total revenue	*11,670.6*	*15,557.1*	*20,363.2*
Total	**39,291.0**	**49,952.8**	**63,759.0**
Expenditure—			
Claims by death and disability	592.1	663.4	792.9
Claims by maturity	840.7	961.5	1,122.2
Surrenders and bonuses in cash	1,922.2	2,562.0	4,095.9
Annuities	25.2	38.5	68.9
Commissions	516.8	656.0	892.3
Salaries	326.6	397.3	499.0
Contribution to staff superannuation	58.4	61.8	67.1
Taxes (other than those charged on interest, dividends and rents)	36.0	52.8	73.2
Other expenses	346.1	479.4	647.5
Transfer out of statutory fund	231.2	165.8	103.0
Total expenditure	*4,895.3*	*6,038.5*	*8,362.0*
Balance of Revenue Account at end of year—Australia and overseas	*34,395.7*	*43,914.3*	*55,397.0*
Total	**39,291.0**	**49,952.8**	**63,759.0**

LIFE INSURANCE: SUMMARY

	Insurance and endowment policies			
	Number of policies ('000)	*Sum insured ($ million)*	*Business issued by single premiums ($ million)*	*Annual premiums ($ million)*
ORDINARY AND INDUSTRIAL BUSINESS				
New policies issued—				
1986	693	24,786	1,733.4	292.9
1987	927	30,522	3,780.7	396.5
1988	958	37,766	2,654.2	467.7
Policies discounted or reduced *(a)*—				
1986	619	13,268	..	146.4
1987	712	16,886	..	185.6
1988	734	19,947	..	220.9
Policies existing at end of—				
1986	5,958	120,934	..	1,385.3
1987	6,173	134,570	..	1,596.2
1988	6,397	152,389	..	1,843.0
SUPERANNUATION BUSINESS				
New policies issued—				
1986	247	31,772	792.2	805.7
1987	343	38,550	1,700.6	1,082.0
1988	353	53,873	2,205.7	1,511.4
Policies discontinued or reduced *(a)*—				
1986	64	15,156	..	374.2
1987	100	19,245	..	491.2
1988	96	24,256	..	526.6
Policies existing at end of—				
1986	1,458	120,722	..	2,750.5
1987	1,701	140,027	..	3,341.3
1988	1,958	169,644	..	4,290.1

(a) Includes transfers.

GENERAL INSURANCE

Statistics in the following tables have been derived from the publications of the Insurance and Superannuation Commission. The statistics relate to the operations of:

(a) *Bodies corporate* authorised to carry on insurance business under the *Insurance Act 1973;* and

(b) *Government instrumentalities,* i.e. State Government Insurance Offices and Commonwealth Government and State Government instrumentalities in respect of their general insurance business.

These statistics are based on the following definitions:

Premiums comprise the full amount receivable in respect of direct insurance and facultative reinsurance business written or renewed within Australia, during the year. Premiums are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year.

Claims comprise, for direct insurance and facultative reinsurance business, payments made during the year. Salvage and other amounts recoverable other than Reinsurance recoveries have been deducted.

Information contained in the following tables does not relate to uniform accounting periods but to the financial years of the organisations which ended during the years shown.

GENERAL INSURANCE: PREMIUMS AND CLAIMS BY PRINCIPAL CLASS OF BUSINESS
($ million)

Class of business	*1985–86*	*1986–87*	*1987–1988*
PREMIUMS			
Fire *(a)*	725.7	854.2	917.9
House Owners' and House-holders'	782.3	826.3	908.1
Contractors' All Risks	64.6	86.0	86.1
Marine and Aviation	211.9	240.1	255.8
Motor Vehicle Comprehensive	1,392.5	1,664.9	1,943.8
Compulsory Third Party (Motor Vehicle)	118.6	132.4	132.6
Employers Liability *(b)*	1,607.4	1,267.9	411.7
Public Liability *(c)*	352.9	500.1	621.5
All other	631.0	703.8	788.9
Total	**5,886.8**	**6,275.6**	**6,066.4**
CLAIMS			
Fire *(a)*	417.7	403.0	375.0
House Owners' and House-holders'	372.4	409.3	175.0
Contractors' All Risks	38.6	41.6	87.0
Marine and Aviation	114.6	125.8	97.3
Motor Vehicle Comprehensive	1,127.8	1,370.7	370.4
Compulsory Third Party (Motor Vehicle)	64.4	60.8	293.3
Employers Liability *(b)*	1,332.1	1,308.6	2,493.8
Public Liability *(c)*	126.4	140.2	853.3
All other	272.3	325.4	227.3
Total	**3,866.2**	**4,185.5**	**4,972.4**

(a) Includes sprinkler leakage, loss of profits, and crop and hailstone insurance. *(b)* Excludes workers' compensation insurance in the coal mining industry in NSW. *(c)* Includes product liability and professional indemnity insurance.

HOUSING FINANCE FOR OWNER OCCUPATION

The following tables present statistics of secured housing finance commitments made by significant lenders to individuals for the construction or purchase of dwellings for owner occupation. For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

HOUSING FINANCE FOR OWNER OCCUPATION
($ million)

	Finance commitments for—				
	Construction or purchase dwellings	*Alterations and additions*	*Cancellations of commitments*	*Commitments advanced*	*Commitments not advanced*
1986–87	12,830.1	498.5	465.9	12,599.0	2,481.0
1987–88	20,109.6	707.3	617.6	18,060.0	4,598.0
1988–89	22,101.7	998.7	857.4	22,818.2	3,906.3

HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS AND VALUE OF COMMITMENTS TO INDIVIDUALS BY TYPE OF LENDER

	Banks		*Permanent building societies*	*Other lenders (a)*	*Total*
	Savings	*Trading*			
CONSTRUCTION OF DWELLINGS					
			—number—		
1986–87	33,038	4,197	5,523	3,797	46,555
1987–88	47,429	4,996	8,823	4,380	65,628
1988–89	56,499	7,035	7,264	4,764	75,562
			—$ million—		
1986–87	1,399.7	182.4	267.7	146.3	1,996.1
1987–88	2,254.1	302.7	482.9	179.7	3,219.3
1988–89	2,896.5	434.6	443.4	259.9	4,034.4
PURCHASE OF NEWLY ERECTED DWELLINGS					
			—number—		
1986–87	12,030	1,272	2,168	2,294	17,764
1987–88	12,876	1,470	3,056	1,778	19,180
1988–89	12,512	1,681	1,941	1,402	17,536
			—$ million—		
1986–87	562.4	73.0	115.4	91.0	841.7
1987–88	686.0	115.1	181.5	75.6	1,058.2
1988–89	775.5	145.4	134.9	75.4	1,131.2
PURCHASE OF ESTABLISHED DWELLINGS					
			—number—		
1986–87	154,539	12,809	33,664	14,007	215,019
1987–88	200,060	19,729	51,630	15,511	286,930
1988–89	180,629	23,725	36,619	15,224	256,197
			—$ million—		
1986–87	7,068.4	708.0	1,615.9	599.8	9,992.1
1987–88	10,671.7	1,574.7	2,876.5	709.2	15,832.1
1988–89	11,733.7	1,978.0	2,346.1	878.3	16,936.1
TOTAL					
			—number—		
1986–87	199,607	18,278	41,355	20,098	279,338
1987–88	260,365	26,195	63,509	21,669	371,738
1988–89	249,640	32,441	45,824	21,390	349,295
			—$ million—		
1986–87	9,030.5	963.4	1,999.0	837.1	12,830.1
1987–88	13,611.7	1,992.5	3,540.9	964.5	20,109.7
1988–89	15,405.7	2,558.0	2,924.4	1,213.6	22,101.7

(a) Includes cooperative housing societies, finance companies, governments, credit cooperatives and insurance companies.

PERSONAL, COMMERCIAL AND LEASE FINANCE

Three new monthly collections were introduced in January 1985 to measure the lending activity of significant lenders in the fields of personal, commercial and lease finance. These collections replaced two previous collections, the results of which were published in *Finance Companies, Australia* (5614.0) and *Instalment Credit for Retail Sales, Australia* (5631.0).

Personal finance

The following tables present statistics of finance commitments made by significant lenders to individuals for their own personal (non-business) use. For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Personal Finance, Australia* (5642.0).

PERSONAL FINANCE COMMITMENTS (a): TYPE OF LENDER
($ million)

	All banks	*Finance companies*	*Credit cooperatives*	*Other lenders (b)*	*Total*
1986–87	10,166.3	2,926.9	1,771.0	365.7	15,229.8
1987–88	14,406.3	3,242.0	1,844.6	441.4	19,934.4
1988–89	15,408.2	4,407.4	2,209.0	428.7	22,453.3

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities. (b) Includes permanent building societies, general financiers and retailers.

PERSONAL FINANCE COMMITMENTS: TYPE OF FACILITY, ALL LENDERS
($ million)

		Revolving credit commitments			
	Fixed loan commitments	*New and increased credit limits*	*Cancellations and reductions in credit limits*	*Credit limits*	
				Total	*Used*
1986–87	9,754.4	5,475.5	2,558.3	16,993.4	7,665.1
1987–88	11,864.6	8,069.7	3,909.9	21,484.0	9,328.7
1988–89	14,312.1	8,141.1	n.y.a.	n.y.a.	n.y.a.

Commercial finance

The statistics in the following tables measure commitments made by significant lenders to government, private and public enterprises and non-profit organisations as well as to individuals (for investment and business purposes). For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Commercial Finance, Australia* (5643.0).

COMMERCIAL FINANCE COMMITMENTS (a): TYPE OF LENDER
($ million)

	Trading banks	*Other banks*	*Finance companies*	*Money market corporations*	*Other lenders (b)*	*Total*
1986–87	57,772.1	3,190.0	6,948.3	9,132.4	203.2	77,246.0
1987–88	82,216.3	6,636.0	8,462.0	10,716.3	150.3	108,180.8
1988–89	82,086.2	9,662.5	13,341.6	9,788.6	261.8	115,140.7

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities. (b) Includes permanent building societies, general financiers and pastoral finance companies.

COMMERCIAL FINANCE COMMITMENTS: FIXED LOAN FACILITIES
($ million)

	Construction	*Purchase of real property*	*Purchase of plant and equipment*	*Refinancing*	*Other purposes*	*Total*
1986–87	3,454.7	4,483.6	2,032.0	2,579.5	10,832.2	23,382.0
1987–88	5,018.0	8,520.8	2,493.2	4,062.0	14,408.0	34,502.0
1988–89	7,795.6	14,816.1	3,206.0	4,408.8	16,575.7	46,802.2

COMMERCIAL FINANCE COMMITMENTS (a) INDUSTRY OF BORROWER
($ million)

	1987–88			*1988–89*		
Industry of borrower	*New fixed loan commitments during period*	*New and increased credit limits during period*	*Total new commitments during period*	*New fixed loan commitments during period*	*New and increased credit limits during period*	*Total new commitments during period*
Agriculture, forestry, fishing and hunting	3,243.9	3,564.7	6,808.6	3,266.2	3,689.4	6,955.6
Mining	802.5	2,638.7	3,441.2	901.7	3,219.1	4,120.8
Manufacturing	2,035.4	11,837.8	13,873.2	2,717.8	10,221.9	12,939.7
Construction	5,385.5	5,097.4	10,482.9	8,065.7	5,136.5	13,202.2
Wholesale trade	1,294.6	4,352.2	5,646.8	1,713.2	3,466.9	5,180.1
Retail trade	2,546.6	5,472.7	8,019.3	3,110.5	4,724.3	7,834.8
Transport and storage	963.6	1,420.8	2,384.4	1,275.3	1,796.3	3,071.6
Finance, investment and insurance	6,012.6	18,621.6	24,634.2	6,664.9	16,024.2	22,689.1
Property and business services	5,110.9	8,650.6	13,761.5	8,673.0	9,852.5	18,525.5
Other industries	7,106.4	12,022.4	19,128.8	10,413.9	10,207.4	20,621.4
Total industries	**34,502.0**	**73,678.8**	**108,180.8**	**46,802.2**	**68,338.5**	**115,140.7**

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities.

Lease finance

The statistics in the following tables measure lease finance commitments made by significant lenders to trading and financial enterprises, non-profit organisations, governments, public authorities and individuals. For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Lease Finance, Australia* (5644.0).

LEASE FINANCE COMMITMENTS: TYPE OF LESSOR
($ million)

	All banks	*Money market corporations*	*Finance companies*	*General financiers*	*Total*
1986–87	1,237.6	287.7	3,420.9	575.2	5,521.4
1987–88	1,825.0	412.5	3,973.6	578.2	6,789.3
1988–89	2,329.6	456.2	5,106.7	909.1	8,801.7

LEASE FINANCE COMMITMENTS: TYPE OF GOODS LEASED
($ million)

Types of goods	*1986–87*	*1987–88*	*1988–89*
Motor vehicles and other transport equipment	2,940.0	3,502.8	4,845.8
Construction and earth moving equipment	317.6	306.2	439.3
Agricultural machinery and equipment	150.3	182.3	243.0
Automatic data processing equipment and office machinery	766.4	841.3	1,138.9
Shop and office furniture, fittings and equipment	581.1	652.7	674.9
Other goods	766.0	1,304.1	1,459.7
Total	**5,521.4**	**6,789.3**	**8,801.7**

LEASE FINANCE COMMITMENTS: INDUSTRY OF LESSEE
($ million)

Industry of lessee	*1986–87*	*1987–88*	*1988–89*
Agriculture, forestry, fishing and hunting	346.7	438.0	547.5
Mining	92.8	110.2	133.4
Manufacturing	693.5	1,040.7	1,090.5
Construction	451.4	548.3	706.9
Wholesale trade	289.4	305.5	319.7
Retail trade	698.3	838.7	1,119.0
Transport and storage	813.0	901.2	1,204.9
Finance, investment and insurance	500.1	537.8	681.5
Property and business services	687.2	907.1	1,273.5
Community services	222.4	325.9	430.0
Other industries	726.6	835.9	1,294.8
Total industries	**5,521.4**	**6,789.3**	**8,801.7**

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Personal Finance, Australia (5642.0)
Commercial Finance, Australia (5643.0)
Lease Finance, Australia (5644.0)
Public Unit Trusts, Australia (5645.0)

Other Publications

The Reserve Bank of Australia Bulletin

24

PUBLIC FINANCE

This chapter deals with the financial activities of the organisations which make up the three levels of government in the Australian political system—Commonwealth, State and local—and which collectively constitute the public sector. An account is given of the activities of each level of government, with particular emphasis being given to the Commonwealth Government. Tables are then presented which bring together the transactions of all public non-financial enterprises to highlight the role in the Australian economy of the public sector as a whole. Then follows a section on government borrowing activities at all levels.

Concepts and Definitions Used in Public Finance Statistics

The tables below (except those explicitly sourced to Budget Papers) are provided from the system of government finance statistics (GFS). To assist users in understanding the statistics presented in these tables, a separate publication *Classifications Manual for Government Finance Statistics, Australia* (1217.0) has been produced. It outlines the major concepts used, provides definitions of the enterprise unit used for GFS collections and of transactions classifications employed. The GFS classifications used in the tables that follow are:

- the *Economic Transactions Framework* (ETF) which categorises outlays, revenue, grants received and financing transactions according to their economic character to facilitate study of the macroeconomic effect of government activity on the economy and to provide the basic building blocks for grouping transactions to be incorporated into the Australian National Accounts;
- the *Taxes, Fees and Fines Classification* (TFFC) which dissects this major form of government revenue according to the type of tax, fee or fine collected; and
- the *Government Purpose Classification* (GPC) which is used to group outlays with similar functions to facilitate study of the broad purposes of public sector spending and assessment of the effectiveness of outlays in meeting government policy objectives.

Commonwealth Government Finance

Financial provisions of the Constitution

The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth of Australia are contained in Sections 81 to 105A of the Commonwealth Constitution.

Two other sections which have a most important bearing on questions of Commonwealth finance are Sections 69 and 51. Section 69 provides for the transfer from the States to the Commonwealth of certain specified departments, and Section 51, in outlining the powers of the Commonwealth Parliament, implies the transfer or creation of other departments.

Sections 87 and 96 of the Constitution deal with the financial relations between the Commonwealth and the States. The full text of the Financial Agreement of 1927 was given in *Year Book* No. 31, page 21; accounts of this Agreement as affected by subsequent Agreements were included in later issues of the *Year Book* up to No. 37; and details of the main provisions appeared in further issues of the *Year Book* up to No. 50. For details of current provisions for financial assistance to the States reference should be made to the *Commonwealth Budget Paper No. 4 Commonwealth Financial Relations with Other Levels of Government, 1988–89.*

The *Audit Act 1901* lays down the procedure which must be followed in accounting for the receipt and disbursement of public funds. The general administration of Commonwealth Government finances is the responsibility of the Commonwealth Minister for Finance.

Commonwealth Government Budget

The Commonwealth Government Budget records the transactions of those enterprises of the Commonwealth Government whose receipts and payments are summarised in the statements of Public Account balances. In 1987–88 the change in cash balances was represented by the following:

	$'000
Net Cash receipts of the Consolidated Revenue Fund	82,668,315
plus cash receipts of Loan Fund	36,911,657
plus cash receipts of Trust Fund	8,628,320
Total	*128,208,292*
less cash payments from Consolidated Revenue Fund	82,668,316
less cash payments from Loan Fund	37,305,240
Less cash payments from Trust Fund (including decrease in investments of the Trust Fund)	9,279,390
Total	*129,252,946*
equals increase in cash balances	–1,044,654

Revenues from taxation and other sources are paid into the Consolidated Revenue Fund, from which the main expenditures are for defence, social services, payments to the States and general administration. The Trust Fund covers special transactions outside the ordinary operations of departmental expenditures, such as pension funds and moneys held for expenditure by the Commonwealth Government at some future time. The Loan Fund receives its funds from the sale of Commonwealth Government securities, and the expenditures from the Fund are made in accordance with the purpose of issue of each loan. The main disbursements from the Loan Fund are to the States by way of distribution of the proceeds of loans raised by the Commonwealth Government on their behalf and by capital assistance grants, the remaining disbursements being mainly for Commonwealth Government purposes.

The estimated outlay, revenue and deficit of the Budget for 1988–89 are set out in the table which follows, together with figures for the years 1983–84 to 1987–88. The national accounting presentation of the Budget is shown in order to be consistent with other transactions figures given in this chapter.

It should be noted that some transactions undertaken by enterprises covered by the Budget are not reflected in the change in cash balances, usually because they are not cash transactions or because a receipt and a payment are offset against each other so that only a net amount is included in published totals. The national accounting presentation of the Budget includes these additional transactions.

OUTLAYS, REVENUE AND DEFICIT OF THE COMMONWEALTH BUDGET
($ million)

(*Source:* ***Budget Paper No. 1 Budget Statements 1988–89***)

	1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89 Budget Estimates*
Outlay—						
Net expenditure on goods and services—						
Current	10,009	11,315	12,721	13,780	14,268	14,876
Capital *(a)*	251	318	326	291	467	401
Total	10,260	11,633	13,047	14,071	14,735	15,277
Transfer payments—						
Personal benefit payments	18,376	20,652	22,339	24,082	26,819	28,510
Grants to States and Northern Territory	17,809	19,675	21,008	22,580	23,771	24,138
Grants to non-profit institutions	716	869	959	1,105	932	1,079
Interest paid	4,392	5,652	7,017	7,925	7,895	7,698
Transfers overseas	761	841	841	812	844	918
Subsidies	1,467	1,651	1,527	1,333	1,378	1,311
Grants for private capital purposes	327	386	328	303	348	365
Transfers to non-budget sector *(b)*	1,726	2,049	2,564	2,753	3,028	3,161
Other transfers n.e.c.	..	..	..	2	4	9
Total	45,574	51,775	56,583	60,895	65,019	67,189
Net advances—						
States and Northern Territory	1,002	799	786	546	–48	–91
Non-budget Commonwealth Authorities	–18	–17	–102	–122	39	27
Other sectors	144	128	114	100	76	312
Total	1,128	910	794	524	67	248
Asset sales	..	..	..	..	–1,059	–700
Total outlay	*56,962*	*64,318*	*70,424*	*75,490*	*78,762*	*82,014*
Revenue—						
Taxation—						
Income tax on companies	4,868	5,968	6,674	7,888	10,348	11,900
Income tax on persons	24,712	29,302	32,734	38,074	41,886	47,580
Sales tax, customs and excise duties	14,294	16,507	18,272	18,920	20,898	20,872
Tax on certain bank transactions	183	190	202	261	330	360
ACT taxes and charges	103	123	148	182	245	241
Other taxes, fees and fines—						
Primary industry charges	25	59	51	55	59	77
Primary industry levies	421	531	512	577	691	796
Broadcasting and television licence fees	48	59	69	77	86	117
Other taxes, fees and fines	264	311	337	320	356	374
Total	44,917	53,048	58,999	66,354	74,897	82,318
Non-taxation revenue—						
Interest, rent, dividends, royalties, etc.	4,060	4,569	5,793	6,491	5,908	5,164
Total revenue	*48,977*	*57,617*	*64,792*	*72,845*	*80,805*	*87,482*
Deficit	**7,985**	**6,701**	**5,632**	**2,645**	**–2,043**	**–5,468**

(a) Expenditure on new fixed assets *plus* increase in stocks *less* sales of previously rented houses. *(b)* The Commonwealth Non-Budget sector consists of enterprises which operate outside the Public Account. This includes both general government enterprises which largely depend on budget funding (e.g. ABC) and public trading enterprises which are largely self-financing (e.g. Telecom).

Financing of the Commonwealth Government deficit

The deficit shown in the last line of the preceding table represents the net excess of Budget outlay over revenue. In other words, the estimated deficit shown for 1988–89 represents the Commonwealth Government budget sector's 'financing requirements'. Most such transactions involve the issue, repurchase, redemption or acquisition of Commonwealth Government securities, but some involve or are represented by changes in other assets or liabilities of the Commonwealth Government.

Specifically the deficit is financed as follows:

Net sales of Commonwealth Government securities (new issues *less* redemptions *less* net purchases from Commonwealth Government balances in the Trust Fund);

less net purchases of other investments from Commonwealth Government balances in the Trust Fund;

plus minor items of indebtedness (such as borrowing by Australian Capital Territory housing trust account)

less net additions to cash balances, and funds provided for the International Monetary Fund and the Australian Wheat Board.

A table summarising the financial transactions of the Commonwealth Government budget sector for recent years is given on page 369, Table 1 in 1988–89 *Budget Paper* No. 1.

Commonwealth Non-Budget Enterprises

In addition to the group of Commonwealth Government enterprises whose transactions are covered by the Budget (i.e. itemised in the Consolidated Revenue Fund, the Loan Fund, or recorded in a Trust Fund), there are a number of organisations owned and/or controlled by the Commonwealth Government whose transactions do not, for the most part, pass through the Public Account. This category includes public trading enterprises such as the Australian Postal Commission, Australian Telecommunications Commission, Overseas Telecommunications Commission, Qantas Airways Ltd, Australian Airlines Limited, the Australian Shipping Commission, the Snowy Mountains Hydro-Electric Authority, and public financial enterprises such as the Reserve Bank of Australia and the Commonwealth Bank of Australia. Public trading and financial enterprises, it should be noted, are bodies which aim at covering the bulk of their expenses by revenue either from sales of goods and services (trading enterprises), or by charges for services and net interest receipts (financial enterprises). As well as these enterprises, there are other government enterprises which record most of their transactions outside the Public Account but have only minor independent sources of revenue and are financed almost entirely from funds voted to them each year from the Consolidated Revenue Fund. In order that the national accounting presentation may indicate, as completely as possible, the direct effect of the Budget on demand, appropriations to this last group of enterprises are treated as final expenditure in the Budget. Enterprises in this category include the Australian Broadcasting Corporation, Australian National University and the Australian Nuclear Science and Technology Organisation.

The transactions of Commonwealth Government bodies not covered by the Budget may be brought together and consolidated with the transactions recorded in the Budget to yield figures of the transactions of all Commonwealth public sector enterprises which are owned and/or controlled by the Commonwealth Government. The remaining tables in this section have been prepared on that basis.

Public financial enterprises have been omitted from the consolidated accounts presented here largely on the ground that combining the income and outlay and capital financing transactions of the Reserve Bank, the publicly owned trading and savings banks, government insurance offices and other public financial institutions with the equivalent transactions of public trading enterprises and general government enterprises seems to provide a less meaningful account of public sector activity. For example, omission of the borrowing and lending activities of the government banks and the Reserve Bank allows attention to be centred on the borrowing and lending activities of general government and public trading enterprises, which are quite different in nature and economic effect from the financing activities of the banking system.

Summary of outlay, revenue and net public sector borrowing requirement

The outlay and revenue, and net financing requirement, of all non-financial enterprises of the Commonwealth Government for the six-year period ending 1987–88 are given in the following table.

FINANCIAL TRANSACTIONS OF COMMONWEALTH GOVERNMENT
($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88p*
Current outlays	44,994.8	52,350.9	59,426.3	65,573.9	71,159.0	76,206.5
General government final consumption expenditure	9,763.1	11,260.6	12,699.3	14,263.7	15,661.1	16,242.2
Requited current transfer payments *(a)*	3,686.2	4,686.9	6,093.2	7,642.2	8,732.3	8,882.8
Unrequited current transfer payments	31,545.5	36,403.3	40,633.7	43,688.1	46,765.7	51,081.5
Subsidies paid to enterprises	1,365.8	1,506.9	1,754.7	1,727.1	1,307.4	1,541.7
Personal benefit payments	15,668.8	18,404.8	20,659.4	22,356.3	24,199.2	26,950.8
Current grants	14,511.0	16,491.6	18,219.6	19,584.8	21,259.0	22,589.1
to non-profit institutions	610.9	723.6	882.4	972.4	1,104.4	1,009.7
to foreign governments and organisations	735.9	772.5	860.5	855.1	824.4	848.9
to the States and Northern Territory	13,140.0	14,963.1	16,421.5	17,663.1	19,242.6	20,640.8
to local governments (direct)	24.3	32.5	55.3	94.1	87.6	89.7
Capital outlays	5,865.8	6,847.1	7,182.3	8,721.4	8,312.9	6,472.5
Gross fixed capital expenditure	1,952.1	2,365.9	2,794.6	4,116.6	4,463.4	4,005.1
Expenditure on new fixed assets	2,032.8	2,389.3	3,090.6	4,483.4	4,761.8	4,451.5
Expenditure on secondhand fixed assets (net)	–80.7	–23.4	–296.0	–366.8	–298.4	–446.3
Increase in stocks	294.4	181.2	–46.6	3.7	–351.3	–243.5
Expenditure on land and intangible assets (net)	–34.3	–35.2	–90.9	–60.5	–52.9	–325.6
Capital transfer payments	2,503.5	3,160.1	3,601.0	3,613.7	3,600.3	3,469.6
Capital grants	2,503.5	3,160.1	3,601.0	3,613.7	3,600.3	3,469.6
to the States and Northern Territory	2,209.5	2,772.0	3,146.5	3,229.5	3,235.7	3,054.1
to Local governments (direct)	20.1	20.9	19.5	17.5	13.9	15.7
to other sectors	273.9	367.2	435.0	366.8	350.7	399.8
Advances paid (net)	1,150.0	1,175.1	924.2	1,047.9	653.3	–433.1
to the States, Northern Territory and local governments	1,056.8	1,001.8	798.9	786.2	546.3	–48.0
to other sectors	93.2	173.3	125.3	261.7	107.0	385.1
Revenue	44,882.9	49,454.4	58,532.0	65,654.4	74,078.3	83,506.8
Taxes, fees and fines	41,012.2	44,779.4	52,897.7	58,736.4	66,106.1	74,679.7
Income taxes levied on individuals	22,942.6	24,691.5	29,288.6	32,713.8	38,061.7	41,887.3
Income taxes levied on enterprises and non-residents	5,102.8	4,930.9	6,019.3	6,675.0	7,323.9	9,451.4
Other taxes, fees and fines	12,966.9	15,157.0	17,589.8	19,347.6	20,720.5	23,341.0
Net operating surpluses of public trading enterprises	806.6	1,266.2	1,727.7	1,839.3	2,043.3	3,264.5
Property income and other revenue	3,064.1	3,408.8	3,906.5	5,078.6	5,928.9	5,562.6
Financing transactions	5,977.7	9,743.6	8,076.6	8,640.9	5,393.6	–827.8
Increase in provisions	955.1	1,240.5	1,027.1	1,337.2	1,733.8	1,907.6
Net financing requirement	5,022.6	8,503.1	7,049.5	7,303.7	3,659.8	–2,735.4

(a) Interest, land rent, royalties and dividends paid.

Grants and advances to the States and the Northern Territory.

Commonwealth Government financial assistance to the States and the Northern Territory takes two main forms: (i) grants for general and specific purposes, and (ii) assistance for developmental and other specific purposes in the form of repayable advances. Some information about these forms of financial assistance is given below, but for more complete information reference should be made to the Commonwealth Government Budget Paper No. 4 *Commonwealth Financial Relations with Other Levels of Government.* Further information also appears in chapters of this *Year Book* dealing with the specific function which the payments are designed to serve.

Grants to the States and the Northern Territory

The following table shows details of grants to the States and the Northern Territory classified by purpose.

GRANTS TO STATES AND NORTHERN TERRITORY BY GOVERNMENT PURPOSE CLASSIFICATION AND STATE, 1987–88
($ million)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Current grants	*6,508.9*	*4,849.5*	*3,473.7*	*2,061.9*	*2,215.6*	*735.9*	*795.3*	*20,640.8*
General public services, defence, public order and safety	29.2	20.9	14.1	9.2	10.7	0.2	0.3	84.7
Education	1,385.7	1,093.6	572.8	324.5	350.5	97.5	18.7	3,843.2
Primary and secondary education	538.9	435.0	242.3	114.0	130.8	36.9	16.5	1,514.3
Tertiary education	847.3	656.9	329.5	207.8	217.1	60.4	2.2	2,321.2
University education	531.8	316.0	175.6	110.8	100.2	42.7	—	1,277.1
Other higher education	219.0	307.9	135.2	84.6	104.0	13.6	0.1	864.3
Technical and further education	96.5	33.0	18.8	12.4	12.8	4.1	2.2	179.8
Preschool education and education not definable by level	–0.6	1.8	1.0	2.8	2.6	0.1	—	7.6
Other education not definable by level	–0.6	1.8	1.0	2.8	2.6	0.1	—	7.6
Health	488.1	298.7	102.4	133.6	118.0	43.2	14.1	1,198.3
Hospitals and other institutional services and benefits	468.2	286.1	84.7	126.6	101.0	39.7	13.4	1,119.7
Clinic and other non-institutional services and benefits	8.9	6.3	9.2	4.0	7.3	2.8	0.2	38.7
Public health	11.0	6.3	8.5	3.0	9.7	0.8	0.5	39.9
Other health	0.1	—	—	—	—	—	—	0.1
Social security and welfare	77.2	76.3	31.6	30.3	26.0	7.0	3.3	251.7
Social security	0.4	—	—	—	—	—	—	0.4
Welfare services	68.0	69.7	27.5	28.1	23.7	6.3	3.0	226.2
Family and child welfare	4.2	5.8	1.8	10.0	1.7	0.5	1.2	25.2
Aged and handicapped welfare	60.1	53.8	18.8	13.5	17.4	3.8	0.7	168.2
Welfare services n.e.c.	3.6	10.1	6.9	4.6	4.6	2.0	1.0	32.8
Social security and welfare n.e.c.	8.8	6.6	4.1	2.2	2.3	0.7	0.2	25.0
Housing and community amenities	1.2	2.1	0.4	2.2	1.6	2.6	0.5	10.5
Housing and community development	0.1	1.3	0.4	2.2	1.3	0.3	0.3	6.0
Housing	1.8	1.3	0.4	1.2	0.6	0.3	—	5.8
Community development	–1.7	—	—	1.0	0.7	—	0.3	0.3
Community amenities	1.0	0.7	—	—	0.3	2.2	0.2	4.5
Fuel and energy	29.8	—	12.9	—	0.6	0.1	51.5	95.0
Agriculture, forestry, fishing and hunting	20.5	15.8	31.6	10.5	12.3	1.8	13.1	105.8
Agriculture	20.5	15.8	31.6	10.5	12.3	1.8	13.1	105.8
Agricultural land management	13.6	12.1	22.0	8.4	8.1	1.1	12.8	78.1
Agricultural water resources management	1.0	0.6	—	0.3	—	—	—	1.9
Other agriculture	5.9	3.2	9.7	1.8	4.2	0.8	0.4	25.8
Transport and communications	1.7	1.0	0.6	0.6	0.2	0.3	0.2	4.6
Road transport	1.7	1.0	0.6	0.5	0.2	—	0.2	4.3
Other transport and communications	—	—	—	—	—	0.3	—	0.3
Other economic affairs	48.6	26.0	17.6	12.5	10.6	3.1	1.4	119.7
Other purposes	4,426.8	3,315.0	2,689.5	1,538.6	1,685.0	580.1	692.2	14,927.3
General purpose inter-government transactions	4,425.2	3,315.0	2,683.8	1,538.6	1,685.0	580.1	692.2	14,920.0
Natural disaster relief	1.6	—	5.7	—	—	—	—	7.3

GRANTS TO STATES AND NORTHERN TERRITORY BY GOVERNMENT PURPOSE CLASSIFICATION AND STATE, 1987–88—*continued*
($ million)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Capital grants	*980.4*	*663.6*	*516.9*	*284.2*	*369.6*	*125.9*	*113.6*	*3,054.1*
General public services, defence, public order and safety	—	—	—	—	60.0	—	—	60.0
Education	198.6	159.1	105.8	42.9	58.1	25.0	5.9	595.3
Primary and secondary education	68.8	57.0	39.3	18.3	20.9	5.9	5.3	215.6
Tertiary education	129.9	102.1	66.2	24.5	37.2	19.0	0.2	379.1
University education	39.3	26.5	19.9	7.9	10.5	5.9	—	110.0
Other higher education	22.8	27.4	19.6	5.3	11.6	5.8	0.2	92.8
Technical and further education	67.8	48.2	26.7	11.3	15.0	7.3	—	176.3
Preschool education and education not definable by level	–0.1	—	0.2	—	0.1	—	0.3	0.6
Other education not definable by level	–0.1	—	0.2	—	0.1	—	0.3	0.6
Health	17.3	13.7	7.9	4.4	4.5	12.6	0.5	60.9
Hospitals and other institutional services and benefits	16.8	12.7	7.7	4.2	4.3	12.6	0.5	58.7
Clinic and other non-institutional services and benefits	0.4	1.0	0.1	0.2	0.3	—	—	2.1
Public health	—	—	—	—	—	—	—	—
Social security and welfare	11.1	11.6	7.1	3.9	4.9	1.0	0.5	40.0
Welfare services	11.1	11.6	7.1	3.9	4.9	1.0	0.5	40.0
Family and child welfare	9.0	9.2	5.5	3.6	4.2	1.0	0.5	32.9
Aged and handicapped welfare	2.0	2.4	1.7	0.3	0.7	—	—	7.0
Welfare services n.e.c.	0.1	—	—	—	—	—	—	0.1
Housing and community amenities	213.0	158.4	103.7	123.4	70.3	25.5	1.0	695.3
Housing and community development	247.9	156.1	102.3	67.6	69.5	25.1	—	668.6
Housing	247.9	156.1	102.1	66.7	64.0	25.1	—	661.9
Community development	—	—	0.2	0.9	5.5	—	—	6.6
Community amenities	–35.0	2.2	1.4	55.8	0.8	0.4	1.0	26.7
Recreation and culture	15.4	5.4	1.1	4.8	3.4	1.5	0.2	31.8
Fuel and energy	—	—	—	—	—	28.4	0.8	29.2
Agriculture, forestry, fishing and hunting	1.6	2.1	22.6	—	1.3	—	—	27.6
Agriculture	1.6	2.1	20.5	—	1.3	—	—	25.5
Agricultural water resources management	1.6	2.0	20.5	—	1.3	—	—	25.4
Other agriculture	—	0.1	—	—	—	—	—	0.1
Forestry, fishing and hunting	—	—	2.1	—	—	—	—	2.1
Transport and communications	448.5	249.3	254.2	92.6	154.1	47.2	—	1,245.9
Road transport	447.5	249.3	254.2	92.6	154.1	46.9	—	1,244.6
Water transport	1.3	—	—	—	—	—	—	1.3
Other transport and communications	–0.3	—	—	—	—	—	—	–0.3
Other economic affairs	5.6	—	0.6	2.0	0.1	—	—	8.2
Other purposes	69.4	64.1	13.8	10.1	13.0	–15.2	104.7	259.9
General purpose inter-government transactions	84.6	64.1	13.8	10.1	13.0	–15.2	104.7	275.0
Natural disaster relief	–15.1	—	—	—	—	—	—	–15.1
Total current and capital grants	**7,489.2**	**5,513.1**	**3,990.6**	**2,346.2**	**2,585.2**	**861.8**	**908.9**	**23,694.9**

Advances to the States and the Northern Territory

The Commonwealth provides financial assistance for State projects by way of repayable advances. Borrowings of the Loan Council which are advanced to the States for their work programs and advances for State housing projects represent the largest proportion of the total funds advanced. Full descriptions of the various programs for which funds have been advanced in recent years are given in *Commonwealth Financial Relations with Other Levels of Government.*

The following table shows figures of net advances to the States and Northern Territory by purpose.

NET ADVANCES TO STATES AND THE NORTHERN TERRITORY BY GOVERNMENT PURPOSE CLASSIFICATION, 1987–88
($ million)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Net advances	*11.3*	*15.4*	*–23.3*	*–110.8*	*–4.1*	*18.8*	*44.7*	*–48.0*
Defence	1.0	–0.1	–0.2	—	–0.1	—	—	0.7
Social security and welfare	—	—	—	—	—	—	—	—
Housing and community amenities	62.4	92.5	24.2	50.6	31.5	36.4	49.4	347.0
Housing and community development	66.2	92.5	24.2	49.1	31.6	36.4	49.6	349.5
Housing	66.3	92.8	24.2	49.1	33.1	36.4	49.6	351.4
Community development	–0.1	–0.2	—	—	–1.5	—	—	–1.8
Water supply	–2.4	—	—	1.5	—	—	—	–0.9
Sanitation and protection of the environment	–1.5	—	—	—	—	—	–0.1	–1.6
Recreation and culture	—	—	—	—	–0.2	—	—	–0.2
Fuel and energy	–0.1	—	–3.6	—	—	—	–2.3	–5.9
Agriculture, forestry, fishing and hunting	–7.2	–5.1	–6.1	–2.6	–2.9	–0.5	0.7	–23.8
Agriculture	–6.5	–4.8	–5.5	–2.5	–2.7	–0.2	0.7	–21.6
Agricultural land management	—	—	–0.7	—	—	—	—	–0.7
Agricultural water resources management	–1.3	–0.8	—	–0.6	—	—	—	–2.7
Agricultural support schemes	–4.9	–4.0	–5.2	–1.9	–2.7	–0.2	—	–18.9
Other agriculture	–0.3	—	0.3	—	—	—	0.7	0.7
Forestry, fishing and hunting	–0.7	–0.3	–0.5	–0.1	–0.2	–0.3	—	–2.2
Mining, manufacturing and construction	–0.4	—	—	—	—	—	—	–0.4
Manufacturing	–0.4	—	—	—	—	—	—	–0.4
Transport and communications	–1.6	–0.9	–1.0	—	–3.6	—	—	–7.3
Water transport	—	—	–0.1	—	—	—	—	–0.2
Rail transport	–1.6	–0.9	–0.9	—	–3.6	—	—	–7.1
Other purposes	–42.9	–70.9	–36.6	–158.8	–28.8	–17.0	–3.1	–358.1
Public debt transactions	—	—	—	—	—	—	–6.6	–6.6
General purpose inter-government transactions	–59.2	–67.4	–32.7	–155.2	–23.7	–17.0	3.5	–351.8
Natural disaster relief	16.4	–3.5	–3.8	–3.6	–5.1	–0.1	—	0.3

NOTE: Minus sign (–) denotes excess of repayments.

Main Sources of Finance

The main sources of Commonwealth Government finance are taxation, income of public trading and financial enterprises, other factor income transfers, borrowing, and other financing transactions. Taxation constitutes by far the major source of revenue. In recent years, however, borrowing has become an increasingly significant source of funds.

In what follows, an account is given of the system of Commonwealth Government taxation, and some details are given of the current operations of Commonwealth public enterprises. Borrowings and other financing activities of Commonwealth enterprises are dealt with for convenience in a later section relating to the debt of all public sector enterprises.

Commonwealth Government taxation—summary

The following table shows Commonwealth Government taxation revenue classified by type of tax for the six years ending 1987–88.

COMMONWEALTH GOVERNMENT—TAXES, FEES AND FINES BY TYPE
($ million)

Type of tax	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Taxes, fees and fines	41,012.2	44,779.4	52,897.7	58,736.4	66,106.1	74,679.7
Taxes on income	28,045.3	29,622.4	35,307.9	39,388.7	45,385.6	51,278.7
Income taxes levied on individuals	22,942.6	24,691.5	29,288.6	32,713.8	38,061.7	41,887.3
Personal income tax	22,941.6	24,690.5	29,287.4	32,712.5	38,060.7	41,885.9
Mining withholding tax	1.0	0.9	1.2	1.2	0.9	1.4
Income taxes levied on enterprises	4,688.8	4,464.7	5,485.6	5,979.4	6,538.8	8,573.1
Company income tax *(a)*	4,663.6	4,443.6	5,471.4	5,957.4	6,525.7	8,562.4
Income tax paid by superannuation funds	25.2	21.2	14.2	22.0	13.1	10.7
Income taxes levied on non-residents	414.0	466.2	533.7	695.6	785.1	818.3
Dividend withholding tax	133.8	129.6	154.8	209.3	171.8	124.5
Interest withholding tax	124.1	174.7	247.9	351.3	466.4	540.8
Other income tax levied on non-residents	156.0	162.0	131.0	135.0	147.0	153.0
Employers' payroll taxes	35.3	39.3	50.8	55.6	569.0	918.5
General taxes (payroll tax)	17.8	20.0	23.8	28.8	33.9	40.8
Selective taxes (stevedoring industry charges)	17.5	19.3	26.9	26.8	24.0	25.9
Fringe benefits tax	—	—	—	—	511.7	851.9
Taxes on property	67.6	227.9	239.5	260.6	341.7	471.3
Taxes on immovable property	24.5	24.5	28.1	31.1	36.9	52.4
Estate, inheritance and gift duties	1.6	3.5	0.7	0.4	0.6	0.5
Taxes on financial and capital transactions	41.5	200.0	210.8	229.1	304.2	418.4
Stamp duties	12.0	17.3	21.3	27.0	39.7	67.9
Financial institutions' transaction taxes	29.6	182.7	189.5	202.1	260.8	341.7
Government borrowing guarantee levies	—	—	—	—	3.7	8.8
Taxes on provision of goods and services	12,677.1	14,678.9	17,032.6	18,718.7	19,470.9	21,595.1
General taxes (sales tax)	3,490.1	4,164.8	4,966.1	5,728.3	6,348.2	7,561.5
Excises	7,067.5	8,084.2	9,056.1	9,604.6	9,768.8	10,284.5
Excises on crude oil and LPG	3,486.0	3,664.5	4,241.8	4,065.8	2,105.5	2,079.4
Other Excise Act duties	3,320.1	4,081.7	4,351.6	5,186.1	7,222.0	7,596.4
Agricultural production taxes	261.4	338.0	462.7	352.7	441.4	608.7
Taxes on international trade	2,104.3	2,397.9	2,995.4	3,357.9	3,313.5	3,710.6
Customs duties on imports	2,035.6	2,329.0	2,926.6	3,281.9	3,236.8	3,632.1
Customs duties on exports	66.6	66.6	60.3	57.7	54.6	54.9
Agricultural produce export taxes	2.1	2.3	8.6	18.3	22.0	23.6
Taxes on gambling	7.3	6.1	9.0	9.0	10.7	9.6
Taxes on insurance	7.9	26.0	6.0	18.9	29.7	29.0
Taxes on use of goods and performance of activities	100.6	113.9	131.7	151.4	172.6	203.9
Motor vehicle taxes	13.6	16.7	19.3	21.2	23.7	30.3
Franchise taxes	3.5	4.3	5.0	9.9	14.4	20.6
Other taxes on use of goods etc.	83.4	92.9	107.4	120.2	134.6	153.0
Broadcast and TV station licences	40.4	48.3	58.8	68.8	76.8	85.9
Departure tax	41.7	43.2	46.9	50.1	56.3	65.5
Other taxes on use of goods etc. n.e.i.	1.3	1.3	1.7	1.2	1.5	1.6
Fees and fines	86.3	96.9	135.2	161.5	165.6	212.2
Compulsory fees	78.4	87.2	127.4	154.0	157.0	201.4
Tertiary education charges	—	—	—	—	3.6	3.4
Fines	7.9	9.6	7.9	7.5	8.6	10.8

(a) Excludes income taxes paid by public trading enterprises.

Taxes on income

A description of the development of income taxes in Australia appeared in *Year Book* No. 35, page 926. With the advent of Uniform Taxation in 1942, the States withdrew from the income tax field. While the Commonwealth remains the sole government imposing taxes on income, tax sharing arrangements have been made under which State and local government bodies receive a share of Commonwealth revenue.

The laws dealing with the assessment, declaration and imposition of income tax at 30 June 1989 were:

- *Income Tax Assessment Act 1936* (later referred to as 'the Assessment Act')
- *Income Tax Rates Act 1986* (as amended by the *Income Tax Rates Amendment Act 1987*)
- *Income Tax Act 1986*
- *Income Tax (Dividends and Interest Withholding Tax) Act 1974*
- *Income Tax (Withholding Tax Recoupment) Act 1971*
- *Income Tax (Bearer Debentures) Act 1971*
- *Income Tax (Film Royalties) Act 1977*
- *Income Tax (Mining Withholding Tax) Act 1979*
- *Income Tax (Diverted Income) Act 1981*
- *Income Tax (Securities and Agreements) (Withholding Tax Recoupment) Act 1986*
- *Income Tax (Franking Deficit) Act 1987*
- *Income Tax (Offshore Banking Units) (Withholding Tax Recoupment) Act 1988*
- *Income Tax (Companies, Prescribed Unit Trusts and Superannuation Funds) Act 1985*
- *Income Tax (Fund Contributions) Act 1969*
- *Trust Recoupment Tax Act 1985*

The operation of the Assessment Act is affected by other Acts, the more important of which are:

(a) *Taxation Administration Act 1953*, which provides for the administration of certain Acts relating to taxation and the screening for taxation purposes of applications for exchange control approval.

(b) *Income Tax (International Agreements) Act 1953*, which gives the force of law to agreements with other countries for the avoidance of double taxation. Australia has concluded comprehensive agreements for the avoidance of double taxation with the United Kingdom, the United States of America, Canada, New Zealand, Singapore, Japan, the Federal Republic of Germany, the Netherlands, France, Belgium, the Philippines, Switzerland, Malaysia, Sweden, Denmark, Ireland, Norway, the Republic of Korea, Malta, Italy, Greece, Austria and Finland. Limited agreements dealing with airline profits have been concluded with France, Italy, Greece, India and the People's Republic of China.

(c) *Taxation (Unpaid Company Tax) Assessment Act 1982* and related legislation.

(d) *International Organizations (Privileges and Immunities) Act* 1963, and Regulations made under that Act, which provide for the exemption from income tax of certain income of international organisations and their officials.

(e) *Diplomatic Privileges and Immunities Act 1967*, which provides for the exemption from income tax of certain income of diplomatic representatives, their staff and families.

(f) *Taxation (Interest on Overpayments) Act 1983*, which provides for the payment of interest on certain refunds of tax.

(g) *Taxation (Interest on Underpayments) Act 1986*, which imposes an interest charge in respect of underpayment of income tax.

(h) *Loan (Drought Bonds) Act 1969*, which authorizes the issue of drought bonds and empowers the Commissioner of Taxation to declare when drought bonds have become redeemable.

(i) *Banking Act 1959* and Regulations, under which certain exchange control applications are screened to prevent avoidance and evasion of Australian taxes.

(j) The *Crimes (Taxation Offences) Act 1980*, which established a number of criminal offences relating to the fraudulent evasion of income tax (and sales tax) by stripping companies or trusts of their capacity to pay.

(k) *Medicare Levy Act 1986*, which imposes medicare levy on certain individuals subject to assessment of the levy in accordance with the Assessment Act.

(l) *Local Government (Personal Income Tax Sharing) Act 1976*, which provides for local government bodies in the States to receive a specified proportion of net personal income tax collections.
(m) *Industry Research and Development Act 1986*, which affects eligibility for the 150 per cent research and development concession.
(n) *Fringe Benefits Tax Act 1986* and related legislation which impose a tax on employers in respect of certain benefits provided to employees.

More detailed information on taxation can be obtained from the Australian Taxation Office's reports and papers.

INCOME TAX RATES PAYABLE BY MOST RESIDENTS OF AUSTRALIA, YEAR ENDED 30 JUNE 1990

Range of taxable income	*Marginal rate of tax*	*Tax payable*
($)	*(per cent)*	
0–5,100	nil	nil
5,101–17,650	21	21 cents for each $1 over $5,100
17,651–20,600	29	$2,635.50 + 29 cents for each $1 over $17,650
20,601–35,000	39	$3,491 + 39 cents for each $1 over $20,600
35,001–50,000	47	$9,107 + 47 cents for each $1 over $35,000
Greater than 50,000	48	$16,157 + 48 cents for each $1 over $50,000

The 48 per cent rate is a composite rate, to give effect to the decision to reduce the 49 per cent rate, applying until 31 December 1989 on income over $50,000, to 47 per cent from 1 January 1990.

With some exceptions a Medicare levy of 1.25 per cent of taxable income will be payable.

More detailed information on taxation can be obtained from the Australian Taxation Office's reports and papers.

COMMONWEALTH INCOME TAX PAYABLE ON SPECIFIED RESIDENT INDIVIDUAL INCOMES

($)

Taxable income (a)	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89
TAXPAYER WITH NO DEPENDANTS						
5,000	121.50	108.01	101.25	26.86	..	..
7,000	721.50	641.41	601.25	515.26	456.00	456.00
10,000	1,621.50	1,441.51	1,351.25	1,247.86	1,176.00	1,176.00
15,000	3,121.50	2,858.26	2,726.25	2,590.94	2,496.00	2,496.00
20,000	4,701.50	4,438.26	4,306.25	4,136.09	4,001.00	4,001.00
25,000	7,001.50	6,738.26	6,606.25	6,348.59	6,001.00	6,001.00
30,000	9,301.50	9,064.86	8,946.25	8,612.69	8,001.00	8,001.00
35,000	11,601.50	11,431.36	11,346.25	10,954.19	10,001.00	10,001.00
40,000	14,491.18	14,394.56	14,346.25	13,808.19	12,451.00	12,451.00
45,000	17,491.18	17,394.56	17,346.25	16,662.19	14,901.00	14,901.00
50,000	20,491.18	20,394.56	20,346.25	19,516.19	17,351.00	17,351.00
TAXPAYER WITH DEPENDENT SPOUSE						
5,000	..	..	..	..	..	..
7,000	..	..	..	..	..	..
10,000	791.50	611.51	521.25	417.86	346.00	346.00
15,000	2,291.50	2,028.26	1,896.25	1,760.94	1,666.00	1,666.00
20,000	3,871.50	3,608.26	3,476.25	3,306.09	3,171.00	3,171.00
25,000	6,171.50	5,908.26	5,776.25	5,518.59	5,171.00	5,171.00
30,000	8,471.50	8,234.86	8,116.25	7,782.69	7,171.00	7,171.00
35,000	10,771.50	10,601.36	10,516.25	10,124.19	9,171.00	9,171.00
40,000	13,661.18	13,564.56	13,516.25	12,978.19	11,621.00	11,621.00
45,000	16,661.18	16,564.56	16,516.25	15,832.19	14,071.00	14,071.00
50,000	19,661.18	19,564.56	19,516.25	18,686.19	16,521.00	16,521.00

(a) Income remaining after allowing all deductions.

Income tax assessments—individuals

The following tables show the number of taxpayers, taxable income, and net income tax assessed for individuals.

COMMONWEALTH INCOME TAX ASSESSMENTS (a): TAXABLE INDIVIDUALS DISTRIBUTION BY GRADE OF TAXABLE INCOME

(Income derived in the year 1987–88)

	Number of taxpayers					
Grade of taxable income	*Males*	*Females*	*Total*	*Net income*	*Taxable income*	*Net tax*
$				$m	$m	$m
Under 5,101	40,233	32,567	72,800	248.5	233.8	21.8
5,101– 5,999	55,133	95,941	151,074	886.0	840.9	23.3
	95,366	*128,508*	*223,874*	*1,134.5*	*1,074.7*	*45.0*
6,000– 6,999	132,608	225,933	358,541	2,416.5	2,346.4	91.7
	227,974	*354,441*	*582,416*	*3,551.0*	*3,421.1*	*136.7*
7,000– 7,999	133,023	214,171	347,194	2,674.1	2,596.9	180.4
	360,997	*568,612*	*929,609*	*6,225.1*	*6,018.0*	*317.1*
8,000– 8,999	116,090	174,396	290,486	2,549.7	2,466.3	224.4
	477,087	*743,008*	*1,220,095*	*8,774.8*	*8,484.3*	*541.5*
9,000– 9,999	112,596	153,922	266,518	2,621.5	2,531.9	276.6
	589,683	*896,930*	*1,486,613*	*11,396.3*	*11,016.2*	*818.1*
10,000–10,999	111,016	146,052	257,068	2,792.7	2,698.1	333.0
	700,699	*1,042,982*	*1,743,681*	*14,188.9*	*13,714.3*	*1,151.2*
11,000–11,999	109,563	140,483	250,046	2,975.0	2,875.0	383.0
	810,262	*1,183,465*	*1,993,727*	*17,163.9*	*16,589.3*	*1,534.2*
12,000–12,999	112,441	137,511	249,952	3,229.7	3,123.6	447.6
	922,703	*1,320,976*	*2,243,679*	*20,393.6*	*19,712.9*	*1,981.8*
13,000–13,999	111,970	134,805	246,775	3,442.3	3,331.4	514.1
	1,034,673	*1,455,781*	*2,490,454*	*23,835.9*	*23,044.3*	*2,495.9*
14,000–14,999	115,265	134,794	250,059	3,745.9	3,626.6	594.9
	1,149,938	*1,590,575*	*2,740,513*	*27,581.9*	*26,670.8*	*3,090.8*
15,000–15,999	124,837	140,328	265,165	4,239.3	4,110.6	709.6
	1,274,775	*1,730,903*	*3,005,678*	*31,821.1*	*30,781.4*	*3,800.4*
16,000–16,999	136,485	143,432	279,917	4,761.0	4,619.5	832.4
	1,411,260	*1,874,335*	*3,285,595*	*36,582.1*	*35,400.9*	*4,632.8*
17,000–17,999	148,472	137,733	286,205	5,158.4	5,008.6	935.1
	1,559,732	*2,012,068*	*3,571,800*	*41,740.5*	*40,409.5*	*5,567.9*
18,000–18,999	157,236	133,017	290,253	5,528.5	5,369.6	1,034.3
	1,716,968	*2,145,085*	*3,862,053*	*47,269.0*	*45,779.0*	*6,602.1*
19,000–19,999	167,285	130,007	297,292	5,965.2	5,795.9	1,150.4
	1,884,253	*2,275,092*	*4,159,345*	*53,234.2*	*51,575.0*	*7,752.5*
20,000–21,999	328,591	209,995	538,586	11,639.1	11,299.0	2,387.7
	2,212,844	*2,485,087*	*4,697,931*	*64,873.3*	*62,873.9*	*10,140.3*
22,000–23,999	314,035	161,113	475,148	11,249.2	10,917.4	2,478.7
	2,526,879	*2,646,200*	*5,173,079*	*76,122.5*	*73,791.3*	*12,618.9*
24,000–25,999	*286,733*	*123,281*	*410,014*	*10,552.4*	*10,238.1*	*2,462.1*
	2,813,612	*2,769,481*	*5,583,093*	*86,674.9*	*84,029.5*	*15,081.1*

COMMONWEALTH INCOME TAX ASSESSMENTS (a): TAXABLE INDIVIDUALS DISTRIBUTION BY GRADE OF TAXABLE INCOME—*continued*

(Income derived in the year 1987–88)

	Number of taxpayers					
Grade of taxable income	*Males*	*Females*	*Total*	*Net income*	*Taxable income*	*Net tax*
$				$m	$m	$m
26,000–27,999	253,818 *3,067,430*	100,908 *2,870,389*	354,726 *5,937,819*	9,868.0 *96,542.9*	9,569.7 *93,599.2*	2,413.5 *17,494.5*
28,000–29,999	221,504 *3,288,934*	77,099 *2,947,488*	298,603 *6,236,422*	8,921.1 *105,464.0*	8,651.2 *102,250.4*	2,267.3 *19,761.8*
30,000–34,999	432,163 *3,721,097*	130,450 *3,077,938*	562,613 *6,799,035*	18,729.0 *124,193.0*	18,185.5 *120,435.9*	5,016.4 *24,778.2*
35,000–39,999	260,786 *3,981,883*	66,717 *3,144,655*	327,503 *7,126,538*	12,517.6 *136,710.6*	12,173.5 *132,609.4*	3,591.1 *28,369.4*
40,000–49,999	226,127 *4,208,010*	44,439 *3,189,094*	270,566 *7,397,104*	12,264.5 *148,975.1*	11,927.6 *144,536.9*	3,821.9 *32,191.2*
50,000–99,999	159,358 *4,367,368*	36,900 *3,225,994*	196,258 *7,593,362*	12,873.3 *161,848.4*	12,512.3 *157,049.2*	4,425.0 *36,616.2*
100,000 and over	28,124	7,967	36,091	6,841.5	6,526.4	2,329.1
Total	**4,395,492**	**3,233,961**	**7,629,453**	**168,689.9**	**163,575.6**	**38,945.3**

(a) Excludes trustee and manual assessments.

The previous table excludes details of assessments raised to trustees. However, the following table includes all 1985–86 income year assessments issued during the period 1 July 1986 to 30 June 1987.

COMMONWEALTH INCOME TAX ASSESSMENTS (a): TAXABLE INDIVIDUALS BY STATE OR TERRITORY OF RESIDENCE

(Income derived in the year 1987–88)

State	*Number*	*Taxable income*	*Net tax*
		$m	$m
New South Wales	2,610,740	57,763.9	14,041.2
Victoria	2,063,141	44,755.3	10,760.5
Queensland	1,169,686	23,447.0	5,348.5
Western Australia	718,341	15,498.4	3,690.2
South Australia	662,591	13,100.8	2,928.3
Tasmania	200,794	4,011.5	910.8
Northern Territory	59,352	1,387.0	320.1
Australian Capital Territory	144,808	3,617.6	945.7
Australia	**7,629,453**	**163,575.6**	**38,945.3**

(a) Excludes 24,303 trustee assessments and 216 manual assessments.

Yield of income taxes

Income taxes collected

The following table shows the net amounts of taxes collected and the proportions of the several components over recent years.

COMMONWEALTH INCOME TAXES COLLECTED

Source of income tax	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
NET AMOUNTS COLLECTED ($m)						
Individuals—						
Instalments—salaries and wages	19,940.1	23,424.1	26,324.4	29,526.4	32,677.4	38,516.3
Other payments	4,521.1	5,465.9	5,895.1	7,782.0	8,250.7	7,719.5
Companies	4,563.4	5,564.5	6,111.3	6,714.1	8,800.6	10,269.2
Withholding tax	305.2	403.9	561.8	639.1	666.7	736.6
Prescribed payments system	250.5	411.6	514.9	765.4	957.7	1,308.0
Fringe benefits tax	..	..	..	534.9	880.6	988.7
Total	**29,580.2**	**35,270.0**	**39,407.6**	**45,961.8**	**52,233.7**	**59,538.2**
PERCENTAGES						
Individuals—						
Instalments—salaries and wages	67.41	66.41	66.80	64.24	62.56	64.69
Other payments	15.28	15.50	14.96	16.93	15.80	12.97
Companies	15.43	15.78	15.51	14.61	16.85	17.25
Withholding tax	1.03	1.14	1.42	1.39	1.28	1.23
Prescribed payments system	0.85	1.17	1.31	1.67	1.83	2.20
Fringe benefits tax	..	..	..	1.16	1.68	1.66
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

State Governments

The State government enterprises dealt with in this section include the central government of each State, statutory bodies created by or under State legislation to carry out activities on behalf of the central government, and incorporated organisations in which individual State governments have a controlling interest.

The transactions of many of the State government enterprises are itemised in State Consolidated Revenue Funds or in Trust Funds, so that a satisfactory coverage of their transactions can be obtained from a detailed analysis and reclassification of the published accounts whose receipts and payments are summarised in the Statement of Treasury balances for each State. The remaining statutory bodies and other publicly owned or controlled organisations maintain accounts entirely, or largely, separate from the public accounts, although there may be transactions between them and State governments (such as advances and capital contributions, interest and dividends, and votes for running expenses and capital works) which would affect the public accounts. The accounting reports of this group of organisations have to be collected and analysed in order to present a complete statement of the transactions of State government enterprises—or at least methods of analysis need to be adopted which adequately reflect their transactions so that they are in principal, covered by the statistics.

In the figures which follow in this section, all expenditure by State central government enterprises on certain institutions, whether direct (e.g. new building charged to Loan Fund) or indirect by way of current or capital grants to the bodies administering them, has been treated as final expenditure on goods and services by State government; fees and gifts from persons or private businesses to these institutions are not included, nor is the expenditure of the institutions from their own resources. Universities and hospitals are particular examples of organisations for which this practice has been adopted.

Many of these State government enterprises have been granted autonomy by State legislatures to the extent that they are largely financially independent. Some of these are funded from earmarked tax revenues and are vested with independent borrowing powers. A considerable number of others belong to the category of public trading enterprises, since they are able to charge for their services so as to cover their costs of operation. These bodies have usually been created to control a specific activity or provide a specific service within a State. It is often the case that in other States similar activities are carried out, or services are provided, by central government or local governments. Details of the activities of autonomous or semi-autonomous State government enterprises engaged in such fields as construction and maintenance of roads and bridges, provision of water supply and sewerage services, harbour facilities, transport, electricity and gas, housing and banking may be found in chapters relevant to those subjects and in State *Year Books*.

Details of the transactions of State governments are given in the tables which follow and in *State and Local Government Finance, Australia* (5504.0). Additional information relating to the activities of the State governments may also be found in the *Year Books* of the individual States.

Outlay, revenue, grants received, and deficit

The outlay, revenue, grants received and deficit of State governments for the six year period ended 1987–88 are given in the following table.

OUTLAYS, REVENUE AND GRANTS RECEIVED, AND DEFICIT OF STATE GOVERNMENTS
($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Current outlays	25,177	28,283	31,784	35,482	39,124	42,707
General government final consumption expenditure	16,666	18,534	20,731	22,855	25,023	27,196
Requited current transfer payments	4,348	4,989	5,883	6,910	7,785	8,737
Unrequited current transfer payments	4,163	4,760	5,171	5,718	6,316	6,774
Subsidies paid to enterprises	1,766	1,869	1,967	2,296	2,557	2,681
Personal benefit payments	569	603	661	701	791	891
Current grants—	1,826	2,288	2,542	2,722	2,944	3,173
to non-profit institutions	1,236	1,528	1,719	1,892	2,102	2,230
to local governments	590	759	823	830	842	943
Other current transfer payments	2	—	2	–1	24	29
Capital outlays	9,851	10,504	10,426	11,648	12,469	11,146
Gross fixed capital expenditure	8,863	9,438	9,454	10,469	11,174	10,193
Expenditure on new fixed assets	8,872	9,500	9,590	10,620	11,401	10,679
Expenditure on second hand fixed assets (net)	–9	–62	–135	–151	–227	–486
Increase in stocks	179	69	–11	103	233	133
Expenditure on land and intangible assets (net)	47	66	146	–38	–109	–100
Capital transfer payments	431	586	628	609	585	676
Capital grants—	430	544	591	591	574	670
to local governments	326	440	462	418	446	506
to other sectors	104	105	129	172	128	164
Other capital transfer payments	—	42	37	16	10	6
Advances paid (net)	332	345	208	507	586	244
to local governments	24	13	23	26	11	4
to other sectors	308	332	186	481	575	240
Revenue and grants received	28,157	31,911	35,955	39,848	43,735	48,471
Taxes, fees and fines	8,386	9,300	10,462	11,504	13,065	15,620
Net operating surpluses of public trading enterprises	2,379	2,598	3,155	3,744	4,443	5,132
Property income and other revenue	2,037	2,275	2,768	3,706	3,747	4,019
Grants received from Commonwealth government	15,356	17,737	19,570	20,894	22,480	23,700
Financing transactions	6,871	6,877	6,255	7,283	7,858	5,383
Increase in provisions	1,030	1,483	1,826	1,942	2,049	2,151
Deficit	**5,841**	**5,394**	**4,429**	**5,341**	**5,809**	**3,232**
Deficit financing						
Net advances received from Commonwealth Government (ETF 41)	1,058	1,004	805	782	541	–53
Other deficit financing	4,783	4,390	3,624	4,559	5,268	3,285

Local Governments

In each State of Australia and in the Northern Territory there exists a system of local government whose powers and responsibilities are generally similar and cover such matters as the construction and maintenance of roads, streets and bridges; water, sewerage and drainage systems; health and sanitary services; the supervision of building; and the administration of regulations relating to items such as weights and measures, slaughtering, the registration of dogs, etc. In addition to these obligatory functions, there are also many which may be performed by a local authority either with or without the consent of the ratepayers or the Governor-in-Council. These include provision of transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, swimming pools, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State and Northern Territory legislatures to the local government bodies, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the Governor-in-Council. Otherwise, within the scope of the Acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers. While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc. vary considerably from State to State, and even within States.

OUTLAYS, REVENUE AND GRANTS RECEIVED AND DEFICIT OF LOCAL GOVERNMENTS
($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Current outlays	2,505	2,791	3,075	3,376	3,625	3,929
General government final consumption expenditure	1,889	2,090	2,309	2,532	2,740	2,974
Requited current transfer payments	522	596	656	724	752	803
Unrequited current transfer payments	94	104	110	120	133	152
Capital outlays	1,666	1,713	2,010	2,219	2,383	2,487
Gross fixed capital expenditure	1,633	1,726	2,019	2,233	2,390	2,514
Expenditure on new fixed assets	1,686	1,774	2,090	2,318	2,455	2,632
Expenditure on second-hand fixed assets (net)	–52	–48	–72	–85	–66	–118
Increase in stocks	16	–10	–9	10	9	1
Expenditure on land and intangible assets (net)	17	–7	–2	–24	–25	–36
Capital transfer payments	8	4	–2	4	4	9
Advances paid (net)	–8	—	4	–4	5	–1
Revenue and grants received	3,767	4,391	4,787	5,240	5,646	6,061
Taxes, fees and fines	2,080	2,309	2,537	2,779	3,032	3,334
Net operating surpluses of public trading enterprises	291	385	378	399	442	453
Property income and other revenue	961	1,252	1,359	1,360	1,389	1,537
Grants received—	436	446	514	703	783	736
from Commonwealth government	44	54	75	112	102	106
from State governments	916	1,199	1,284	1,249	1,288	1,432
Financing transactions	404	113	297	355	361	357
Increase in provisions	224	244	231	276	244	270
Deficit	**147**	**–118**	**76**	**93**	**125**	**112**
Deficit financing						
Net advances received from Commonwealth and State governments	24	13	23	26	11	4
Other deficit financing	123	–131	53	67	114	108

The areas over which local government bodies, numbering almost 900, exercise general control, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South

Australia as cities, corporate towns and district council areas; in Western Australia as cities, towns and shires and in Tasmania and the Northern Territory as cities and municipalities. In New South Wales some local authorities in an area have combined to form County Councils which provide services such as electricity and water supply. Within shires there are also some municipal units known as urban areas. Apart from the Australian Capital Territory and the more sparsely populated parts of New South Wales, South Australia and the Northern Territory, practically the whole of Australia comes within local government jurisdiction. For further details *see* State *Year Books.*

All Levels of Government

In the following table the transactions of the Commonwealth, State and local governments have been brought together and consolidated to provide details of the outlays and revenue of the public non-financial sector as a whole.

Summary of outlays, revenue and deficit

The outlays, revenue and deficit of all governments for the years 1982–83 to 1987–88 are set out in the following table.

OUTLAYS, REVENUE AND DEFICIT OF COMMONWEALTH, STATE AND LOCAL GOVERNMENTS (a)
($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Current outlay	56,904	65,512	74,719	83,472	91,303	98,395
General government final consumption expenditure	28,403	31,978	35,824	39,738	43,587	46,908
Requited current transfer payments	6,607	8,204	10,455	12,999	14,907	15,812
Unrequited current transfer payments	21,894	25,330	28,440	30,735	32,809	35,676
Subsidies paid to enterprises	3,077	3,304	3,682	3,987	3,929	4,016
Personal benefit payments	16,238	19,008	21,320	23,057	24,896	27,745
Current grants—	2,575	3,014	3,433	3,688	3,965	3,912
to non-profit institutions	1,839	2,241	2,572	2,833	3,139	3,063
to foreign governments and organisations	736	773	861	855	825	849
Other current transfer payments	4	3	5	4	18	4
Capital outlays	13,706	14,822	15,118	17,460	18,819	15,739
Gross fixed capital expenditure	12,341	13,406	14,095	16,366	17,866	16,086
Expenditure on new fixed assets	12,483	13,540	14,603	16,979	18,428	17,246
Expenditure on second-hand fixed assets (net)	–142	–134	–508	–613	–561	–1,160
Increase in stocks	488	224	–66	117	–127	–221
Expenditure on land and intangible assets (net)	30	24	53	–123	–200	–659
Capital transfer payments	378	512	600	550	490	523
Capital grants	378	470	563	533	479	518
Other capital transfer payments	—	42	37	16	10	5
Advances paid (net)	470	656	435	550	790	10
Revenue	58,462	64,476	75,916	85,874	96,875	108,941
Taxes, fees and fines	51,480	56,393	65,902	73,029	82,281	93,636
Net operating surpluses of public trading enterprises	3,515	4,184	5,204	5,885	6,790	7,724
Property income and other revenue	3,466	3,899	4,810	6,960	7,804	7,581
Financing transactions	12,148	15,858	13,921	15,057	13,247	5,193
Increase in provisions	2,210	2,999	3,095	3,562	4,008	4,151
Deficit	**9,938**	**12,859**	**10,826**	**11,495**	**9,239**	**1,042**

(a) Excludes financial enterprises.

Public Sector Borrowing

Figures given in this section do not purport to show either 'public debt' or 'net public debt', but are designed to provide details of securities issued on behalf of the Commonwealth Government, the States and the Northern Territory together with some details of the amounts borrowed by State, Territory and local governments with independent borrowing powers.

For a number of reasons, this information cannot be aggregated, without adjustment, to provide a measure of the 'debt' of public sector enterprises. There are forms of debt not evidenced by the issue of securities, such as Commonwealth Government advances to the States and Northern Territory for specific capital purposes. Governments themselves maintain significant holdings of their own securities; for example, the Commonwealth Government, in the National Debt Sinking Fund, the Loan Consolidation and Investment Reserve, and in other Trust Funds, holds large investments in securities issued either directly by itself or on behalf of the States and the Northern Territory. Some of the securities issued on behalf of the States and held by the Commonwealth Government represent the proceeds of overseas loans, securities for which were issued directly by the Commonwealth Government, the Australian currency counterpart proceeds of the loans being invested in special loans to finance State and Northern Territory works programs. A number of State and Northern Territory public corporations and local governments also maintain significant investments in government securities (including their own securities). Aggregation of the figures for securities on issue which follow would clearly involve a substantial degree of duplication; the sum of securities on issue therefore cannot be regarded as representing 'net public debt'.

Commonwealth Government and States and the Northern Territory: government securities on issue

Under the 1927 Financial Agreement between the Commonwealth Government and the States (as amended to 1976), the Commonwealth Government accepted responsibility for the securities of State governments then on issue and was empowered to arrange for all future borrowings on behalf of the Commonwealth and the States and to issue Commonwealth Government securities for all moneys borrowed.

During 1985-86, an agreement was reached with the Northern Territory Government for the formal allocation of securities relating to the Northern Territory Government's Borrowing Program and associated (nominal) debt allocations.

A National Dent Sinking Fund, which is administered by the National Debt Commission, was established by the *National Debt Sinking Fund Act 1923* for the redemption of securities issued on behalf of the Commonwealth Government. Under the terms of the Financial Agreement, the sinking funds existing in respect of the States' debts were also placed under the control of the Commission. The Commonwealth Government is reimbursed by the States and the Northern Territory for interest, exchange, etc. paid on their behalf, and the securities are redeemed from the Fund to which both the Commonwealth, the State governments and the Northern Territory (from 1985-86) make pre-determined contributions. The amounts to be contributed were varied when the *National Debt Sinking Fund Act 1966* repealed all previous legislation on sinking funds relating to securities on issue on behalf of the Commonwealth Government, and again in 1976 when the Act was amended to reflect the amendments to the Financial Agreement. In 1976, the Commonwealth assumed the responsibility for over $1,000 million of States' debt existing as at 30 June 1975. As a consequence, the separate States' Sinking Funds were absorbed into the National Debt Sinking Fund, with separate accounts being maintained for the Commonwealth and each State and the Northern Territory.

For further information relating to operations of the National Debt Sinking Fund reference should be made to the annual report of the National Debt Commission. Particulars of the creation and operation of sinking funds by the *National Debt Sinking Fund Act 1923* are included in issues of the *Year Book* prior to No. 23, and a general description of the provisions applying between 1966 and 1976 is given in issue No. 61.

In the tables which follow, details are given of transactions in Commonwealth Government securities issued on account of the Commonwealth Government, the States and the Northern Territory from 1985–86. Amounts relating to overseas loans are shown in Australian currency equivalent calculated on the basis of the rates of exchange ruling at 30 June in each year shown. All amounts are at face value.

For figures which permit accurate analysis of the structure and movement of securities issued on behalf of the Commonwealth and States, refer to the Commonwealth Budget Related Paper No. 1, *Government Securities on Issue*.

Net movement in securities on issue

Summary details of the net movement in securities issued for Commonwealth Government purposes and on account of the States during the period 1982–83 to 1987–88, are given in the following group of tables.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE
($ million)

(*Source:* **Budget Related Paper 1—Government Securities on Issue 1988 (Table 9)**)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
NEW SECURITIES ISSUED						
Securities repayable in Australian currency—						
Treasury bonds	6,253.8	10,850.0	9,222.2	6,850.3	5,402.7	2,901.2
Treasury indexed bonds	—	—	—	331.8	303.7	202.7
Australian savings bonds	4,204.6	3,599.1	505.2	487.9	138.7	321.2
Special bonds	—	—	—	—	—	—
Income equalization deposits	55.6	24.0	3.7	0.8	0.4	0.7
Drought bonds	—	—	—	—	—	—
Overdue securities	—	—	—	—	—	—
Tax-free stock	—	—	—	—	—	—
Debentures	—	—	—	—	—	—
Stock issued to Government savings banks under special agreements *(a)*	61.9	114.6	71.1	—	—	—
Treasury notes	—	—	—	—	—	—
Treasury bills—						
Internal	—	—	—	—	—	71.7
Public	—	—	—	—	—	—
Other *(b)*	—	—	—	31.0	—	—
Total	*10,575.9*	*14,587.8*	*9,802.2*	*7,701.9*	*5,845.5*	*3,497.5*
Securities repayable in overseas currencies (c)	*1,077.0*	*1,238.4*	*1,729.1*	*2,555.2*	*2,886.1*	—
Total new securities issued	**11,652.9**	**15,826.2**	**11,531.3**	**10,254.1**	**8,731.6**	**3,497.5**

For footnotes *see* end of table.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE—*continued*
($ million)

(*Source*: **Budget Related Paper 1—Government Securities on Issue 1988 (Table 9)**)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
REDEMPTIONS, REPURCHASES, CANCELLATIONS *(d)*						
Securities repayable in Australian currency—						
Treasury bonds	3,117.0	3,189.2	2,990.2	4,621.6	3,587.2	5,072.8
Treasury indexed bonds	—	—	—	0.5	0.6	0.5
Australian savings bonds	1,736.8	1,619.9	1,177.3	2,493.0	650.5	285.6
Special bonds	71.0	31.5	—	—	—	—
Income equalization deposits	65.8	48.6	40.5	27.9	19.1	14.2
Drought bonds	—	—	—	—	—	—
Overdue securities	8.2	9.0	8.8	2.4	1.4	1.1
Tax-free stock	0.1	0.2	0.1	—	—	0.1
Debentures	3.3	—	—	—	—	—
Stock issued to Government savings banks under special agreements *(a)*	5.8	6.0	6.2	19.0	31.8	35.3
Treasury notes	44.2	1,562.8	–821.7	–3,958.8	–1,286.9	290.8
Treasury bills—						
Internal	152.2	479.6	212.9	–107.3	627.1	—
Public	1,400.0	—	—	—	—	—
Other *(b)*	—	—	—	—	5.4	3.3
Total	*6,604.5*	*6,946.9*	*3,614.4*	*3,098.5*	*3,636.1*	*5,703.6*
Securities repayable in overseas currencies (c)	*1,523.9*	*666.1*	*2,697.0*	*4,217.2*	*2,533.5*	*1,566.1*
Total redemptions, etc.	**8,128.4**	**7,612.9**	**6,311.4**	**7,315.7**	**6,169.6**	**7,269.7**
NET MOVEMENT						
Securities repayable in Australian currency—						
Treasury bonds	3,136.8	7,653.9	6,227.4	2,228.7	1,813.1	–2,172.6
Treasury indexed bonds	—	—	—	331.3	303.1	202.2
Australian savings bonds	2,467.8	1,975.6	–674.2	–2,005.1	–509.3	34.1
Special bonds	–71.0	–31.9	—	—	—	—
Income equalization deposits	–10.2	–24.5	–36.8	–27.1	–18.6	–13.5
Drought bonds	—	–0.1	—	—	—	—
Overdue securities	–8.2	2.0	–2.2	–2.4	–1.4	1.4
Tax-free stock	–0.1	–0.2	–0.1	—	—	—
Debentures	–3.3	—	—	—	—	—
Stock issued to Government savings banks under special agreements *(a)*	56.1	108.7	64.9	–19.0	–31.8	–35.3
Treasury notes	–44.2	–1,562.8	821.7	3,958.8	1,286.9	–290.8
Treasury bills—						
Internal	–152.2	–479.6	–212.9	107.3	–627.1	71.7
Public	–1,400.0	—	—	—	—	—
Other *(b)*	—	—	—	30.8	–5.4	–3.3
Total	*3,971.4*	*7,640.9*	*6,187.8*	*4,603.4*	*2,209.4*	*–2,206.1*
Securities repayable in overseas currencies (c)	*–446.9*	*572.3*	*–967.9*	*–1,662.0*	*352.6*	*–2,372.7*
Net movement in securities on issue	**3,524.5**	**8,213.3**	**5,219.9**	**2,941.4**	**2,562.0**	**–4,578.8**

(a) Recorded in Commonwealth Government Loan Fund as State domestic raisings. *(b)* Loans taken over from the previous Canberra Commercial Development Authority. *(c)* Australian currency equivalent at rates of exchange ruling at 30 June in each of the years shown. *(d)* Includes conversions from one type of security to another, which affect the net movements of individual loan categories but do not affect the overall net movement.

NOTE: For securities repayable in overseas currencies the amounts shown also include an element due to exchange rate variations in Securities on Issue.

Government securities on issue

The following table provides details of government securities on issue on account of the Commonwealth Government, the States and the Northern Territory, repayable in Australian and in overseas currencies.

GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH GOVERNMENT AND STATES AND NORTHERN TERRITORY
($ million)

(*Source*: **Budget Related Paper 1—Government Securities on Issue 1988 (Tables 2, 21)**)

	30 June					
	1983	*1984*	*1985*	*1986*	*1987*	*1988*
For Commonwealth Government purposes—						
Repayable in Australian currency—						
Treasury bonds	8,307.7	15,493.6	21,288.6	22,310.8	23,826.0	21,923.1
Treasury indexed bonds	—	—	—	331.3	634.5	836.7
Australian savings bonds	2,633.9	4,577.3	3,914.7	2,033.6	1,682.8	1,784.3
Special bonds	1.3	—	—	—	—	—
Income equalization deposit	155.5	130.9	94.1	67.1	48.4	34.9
Drought bonds	0.1	—	—	—	—	—
Advance loan subscriptions	—	—	—	—	—	—
Overdue securities	6.8	8.8	6.7	5.5	4.7	4.1
Treasury notes	3,635.8	2,073.0	2,894.7	6,853.5	8,140.4	7,849.6
Treasury bills—						
Internal	1,212.3	732.7	519.8	627.1	—	71.7
Public	—	—	—	—	—	—
Other *(a)*	—	—	—	30.7	25.3	22.0
Total	*15,953.4*	*23,016.4*	*28,718.7*	*32,259.7*	*34,362.0*	*32,526.4*
Repayable in overseas currencies *(b)*	6,905.2	7,076.2	9,786.4	13,827.0	15,058.8	12,686.2
Total Commonwealth Government	*22,858.5*	*30,092.6*	*38,505.1*	*46,086.7*	*49,420.9*	*45,212.7*
On account of States—						
Repayable in Australian currency—						
Treasury bonds	13,464.2	13,932.2	14,364.6	15,569.6	15,867.5	15,597.7
Australian savings bonds	2,038.9	2,071.1	2,059.4	1,934.7	1,776.3	1,708.9
Special bonds	30.6	—	—	—	—	—
Tax-free stock	13.8	13.6	13.5	13.5	13.5	13.4
Stock issued to Government savings banks under special agreements	707.8	816.5	881.3	862.3	830.5	795.3
Debentures	—	—	—	—	—	—
Overdue securities	0.2	0.1	—	1.2	0.6	2.7
Total	*16,255.5*	*16,833.4*	*17,318.9*	*18,381.3*	*18,488.4*	*18,117.9*
Repayable in overseas currencies *(b)*	13.9	7.7	6.4	5.4	5.3	5.2
Total States of which—	*16,269.4*	*16,841.1*	*17,325.2*	*18,386.7*	*18,493.7*	*18,123.1*
New South Wales	5,327.9	5,566.5	5,773.5	5,999.2	6,042.6	5,962.7
Victoria	4,045.3	4,204.1	4,385.5	4,550.1	4,587.2	4,525.6
Queensland	2,198.7	2,291.6	2,376.6	2,459.2	2,477.5	2,444.9
South Australia	2,035.2	2,009.4	1,598.2	1,982.9	1,577.3	1,555.7
Western Australia	1,547.8	1,614.9	1,990.6	1,591.5	1,965.4	1,816.3
Tasmania	1,114.4	1,154.5	1,200.7	1,246.3	1,256.4	1,239.7
Northern Territory	—	—	—	557.7	587.4	578.2
Total Commonwealth Government and States	**39,127.9**	**46,933.6**	**55,830.3**	**64,473.4**	**67,914.6**	**63,335.8**

(a) Includes loans taken over from the previous Canberra Commercial Development Authority. *(b)* Australian currency equivalent.

State and Local Authorities' Borrowings

The borrowings of Commonwealth, State and local authorities first came within the purview of the Loan Council under a 'gentlemen's agreement' originating in 1936. Since 1984–85 the 'gentlemen's agreement' has been replaced by the Global Approach whereby the Loan Council determines a voluntary global limit to apply to all new money borrowings by all public trading enterprises (except statutory marketing boards) and local governments. Details of the Global Approach are contained in Commonwealth Budget Paper No. 4, *Commonwealth Financial Relations with Other Levels of Government.*

The following table shows the aggregate borrowings by the State and local authorities in each of the years 1984–85 to 1988–89.

'GLOBAL' NEW MONEY BORROWINGS BY COMMONWEALTH, STATE AND NORTHERN TERRITORY SEMI-GOVERNMENT AND LOCAL AUTHORITIES (a): 1984–85 TO 1988–89 ($ '000)

(*Source*: **Commonwealth Budget Paper (1988–89) No. 4 (Table 25)**)

	New South Wales	*Victoria*	*Queensland*	*Western Australia*	*South Australia*	*Tasmania*	*Northern Territory*	*States and the Territory*	*Commonwealth(b)*	*Total*
				GLOBAL BORROWINGS ($'000)						
1984–85	1,940,648	1,984,750	(*c*)1,552,000	818,058	493,000	228,988	49,990	7,067,434	986,567	8,054,001
1985–86	2,059,064	2,006,660	1,538,912	741,332	400,000	230,000	65,000	7,040,968	1,177,752	8,218,720
1986–87	1,845,000	1,875,140	1,387,000	635,000	350,000	217,000	86,300	6,395,440	1,401,980	7,797,420
1987–88	1,539,600	1,684,400	1,160,500	584,000	300,800	181,600	71,261	5,522,161	(*d*)859,295	6,381,456
1988–89(*e*)	1,449,900	1,487,400	792,800	590,700	258,300	171,000	95,000	4,845,100	2,640,000	7,485,100
				GLOBAL BORROWINGS ($ per capita)						
1984–85	357.16	484.31	609.20	582.62	361.01	520.31	344.05	450.67	62.91	513.59
1985–86	374.56	484.65	592.57	515.71	290.53	517.32	427.91	442.80	74.07	516.87
1986–87	331.16	448.15	523.32	429.11	252.11	485.02	553.92	396.25	86.86	483.11
1987–88	271.99	397.86	428.83	384.24	214.67	405.54	454.76	336.81	52.41	389.22
1988–89	252.65	347.29	286.17	378.99	182.46	381.51	608.94	291.05	158.59	449.63
				GLOBAL BORROWINGS (percentage of GSP) (*f*)						
1984–85	2.7	3.4	4.9	4.1	2.8	4.5	2.3	3.3	n.a.	3.8
1985–86	2.5	3.1	4.4	3.3	2.1	4.0	2.5	3.0	n.a.	3.5
1986–87	2.0	2.6	3.6	2.6	1.7	3.5	3.2	2.5	n.a.	3.0
1987–88	1.5	3.3	2.7	2.1	1.3	2.6	2.3	1.9	n.a.	2.2
1988–89	1.3	1.7	1.7	2.0	1.0	2.2	2.8	1.5	n.a.	2.3

(*a*) Includes borrowings by all Commonwealth, State and Northern Territory semi-government and local authorities, government-owned companies and trusts. (*b*) Includes 'implicit' borrowings associated with instalment purchase transactions by Commonwealth Government departments. (*c*) Commonwealth Treasury estimate. (*d*) A Commonwealth authority converted approximately $1.2 billion of financial leases to operating leases during 1987–88. These transactions are not reflected in reported global borrowings by Commonwealth authorities. (*e*) 'Global' new money limits agreed at the May 1988 Loan Council Meeting by all members except Queensland. (*f*) Total figures are given as a proportion of GDP.

Additional details of the transactions of public authorities engaged in particular fields of activity, such as defence, transport and communication, health and welfare, education, etc., may be found in other chapters of this *Year Book.*

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A variety of publications are available from the Australian Taxation Office.

25

NATIONAL ACCOUNTS

Description of National Income and Expenditure Accounts

National accounting aims to provide a systematic summary of the transactions taking place in the economy, especially those that relate to the production and use of goods and services, and to transfers of income or capital between sectors of the economy.

A brief description of the conceptual basis of national accounts is given in this section, but for a more detailed treatment of the concepts and structure of the Australian national accounts reference should be made to *Australian National Accounts: Concepts, Sources and Methods* (5216.0).

Definition and relationship of the concepts of product, income and expenditure

The main concepts of product, income and expenditure in the Australian national accounts are defined and expressed in equivalents as follows.

Gross domestic product is the total market value of goods and services produced in Australia within a given period after deduction of the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. Thus, gross domestic product, as here defined, is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services. **Gross farm product** is that part of gross domestic product which derives from production in agriculture and services to agriculture. **Gross non-farm product** arises from production in all other industries.

Gross domestic product at factor cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less net indirect taxes.

Domestic factor incomes is that part of the value added within a given period by factors of production (labour, land, capital and enterprise) which accrues as income to their suppliers after allowing for the consumption of fixed capital. It is equivalent to gross domestic product at factor cost less consumption of fixed capital.

National income is the net income accruing within a given period to Australian residents from their services in supplying factors of production (labour, land, capital and enterprise) in Australia or overseas plus indirect taxes less subsidies. It is equivalent to domestic factor incomes plus indirect taxes less subsidies and net income paid overseas.

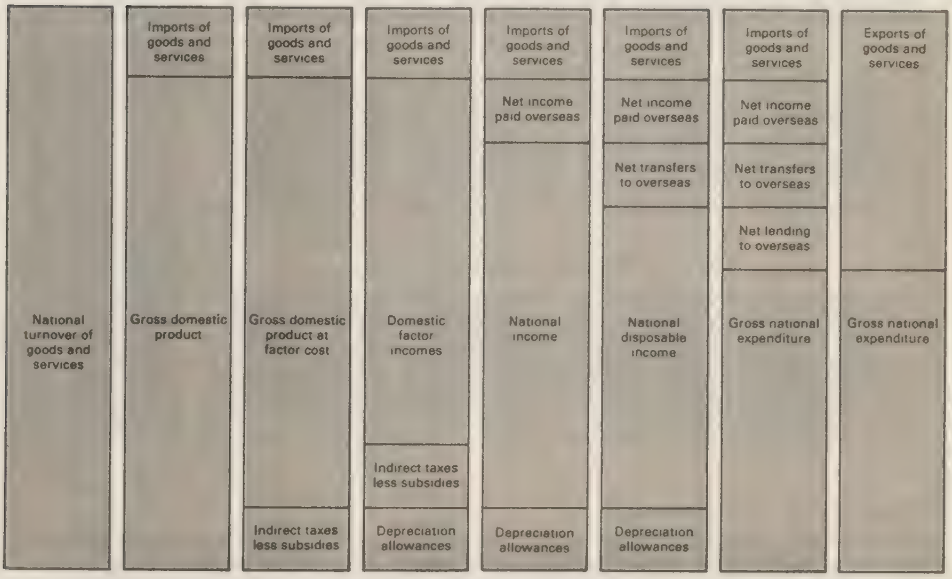
National disposable income is the net income accruing within a given period to Australian residents from their services in supplying factors of production, from net indirect taxes and from net transfers from overseas. It is equivalent to national income less net unrequited transfers to overseas.

Gross national expenditure is the total expenditure within a given period on final goods and services (i.e. excluding goods and services used up during the period in the process of production) bought by Australian residents. It is equivalent to the gross domestic product plus imports of goods and services less exports of goods and services.

Household income is the total income, whether in cash or kind, received by persons normally resident in Australia in return for productive activity (such as wages, salaries and supplements, incomes of unincorporated enterprises, etc.) and transfer incomes (such as cash social security benefits, interest, etc.). It includes the imputed interest of life offices and superannuation funds, which is the benefit accruing to policy holders and members from investment income of the funds. It also includes third party motor vehicle and public risk insurance claims paid to persons in respect of policies taken out by enterprises. However, it excludes any income which might be said to accrue to persons in the form of undistributed company income. It also includes any property income received by non-profit organisations such as private schools, churches, charitable organisations, etc.

The relationships between these aggregates (other than household income) are illustrated in the following diagram. No conclusions concerning the relative magnitude of various aggregates can be drawn from the diagram, especially as some of the boxes may represent negative values.

RELATIONSHIP OF MAIN IDENTITIES

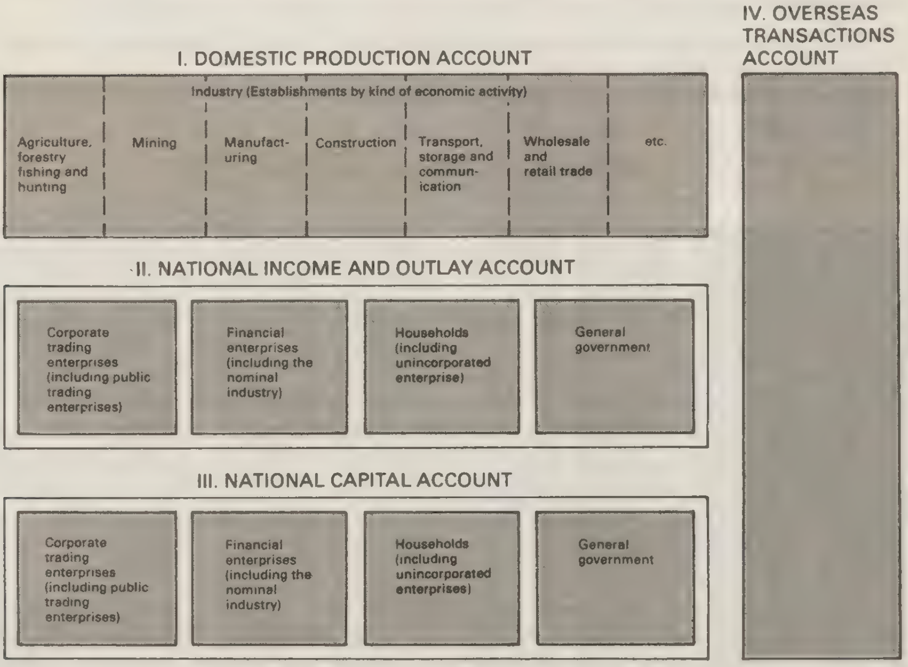

National turnover of goods and services
Imports of goods and services
Gross domestic product
Imports of goods and services
Gross domestic product at factor cost
Indirect taxes less subsidies
Imports of goods and services
Domestic factor incomes
Indirect taxes less subsidies
Depreciation allowances
Imports of goods and services
Net income paid overseas
National income
Depreciation allowances
Imports of goods and services
Net income paid overseas
Net transfers to overseas
National disposable income
Depreciation allowances
Imports of goods and services
Net income paid overseas
Net transfers to overseas
Net lending to overseas
Gross national expenditure
Exports of goods and services
Gross national expenditure

Framework of accounts and sectors

In the Australian national accounts, four internal sectors are distinguished; corporate trading enterprises (including public trading enterprises), financial enterprises (including the nominal industry), households (including their unincorporated enterprises) and general government. All of these internal sectors engage in productive activity, receive and disburse income and accumulate assets. In this publication no accounts are shown for individual internal sectors. The transactions of the internal sectors are summarised in three accounts: a domestic production account, a national income and outlay account and a national capital account. In addition, there is an overseas sector having an account which shows a summary of the transactions into which overseas governments, persons and businesses enter with Australian residents.

The framework of sectors and accounts underlying the Australian national accounts is set out in the following diagram. The large rectangles depict the minimum system of the four consolidated accounts of the nation. The light rectangles represent the accounts for institutional sectors. The subdivision of the domestic production account represents production accounts for establishments classified according to industry. Selected transactions from such production accounts are shown in *Australian National Accounts: National Income and Expenditure* (5204.0). Input-output tables are produced by developing such production accounts in detail.

ARTICULATION OF AUSTRALIAN NATIONAL ACCOUNTS


I. DOMESTIC PRODUCTION ACCOUNT
Industry (Establishments by kind of economic activity)
Agriculture, forestry fishing and hunting
Mining
Manufact-uring
Construction
Transport, storage and commun-ication
Wholesale and retail trade
etc.
II. NATIONAL INCOME AND OUTLAY ACCOUNT
Corporate trading enterprises (including public trading enterprises)
Financial enterprises (including the nominal industry)
Households (including unincorporated enterprise)
General government
III. NATIONAL CAPITAL ACCOUNT
Corporate trading enterprises (including public trading enterprises)
Financial enterprises (including the nominal industry)
Households (including unincorporated enterprises)
General government
IV. OVERSEAS TRANSACTIONS ACCOUNT

Description of the accounts

The **domestic production account** is a consolidation of the production accounts of all producers regardless of sector. The production account is shown as receiving revenue from the sale of goods and services to final buyers; all intermediate goods and services are cancelled out, since they represent a cost to one producer to offset the revenue of the other. On the payments side are shown the payments of indirect taxes less subsidies, and, since the account is presented from the point of view of the producing unit, the wages and salaries paid to employees. The balance is the gross operating surplus which may be divided into consumption of fixed capital and net operating surplus. Consumption of fixed capital is carried to the national capital account (or the sector capital accounts) and net operating surplus, together with wages and salaries and indirect taxes less subsidies, is carried to the national income and outlay account (or sector income and outlay accounts). In input–output tables, the domestic production account is broken up into accounts for separate industries, and transactions associated with intermediate usage of goods and services are shown in the production accounts for the separate industries.

The **national income and outlay account** is shown as receiving wages, salaries and supplements, net operating surplus and indirect taxes less subsidies from the domestic production account. From this income are deducted net payments of income and miscellaneous transfers to overseas; the remainder is the national disposable income. The outlay side of the account shows that this disposable income is largely used for final consumption expenditure and the balance is the nation's saving. The national income and outlay account is a consolidation of the sector income and outlay accounts.

The **national capital account** is a consolidation of the sector capital accounts. It shows, on the receipts side, consumption of fixed capital transferred from the domestic production account and saving transferred from the national income and outlay account (or from the sector income and outlay accounts). On the payments side are shown purchases by all sectors of new buildings and capital equipment, the increase in stocks of all sectors and a balance described as net lending to overseas. This concept of net lending to overseas includes increases (and, negatively, decreases) in Australia's overseas monetary reserves. The net lending to overseas is also the balance on current transactions in the overseas transactions account.

The **overseas transactions account** records all transactions of a current nature between Australian and overseas residents. Although this is an account for the overseas sector, the items are named from the Australian viewpoint. The account shows that Australia's current receipts from overseas consist of the value of Australia's exports of goods and services, property and labour income received from overseas and unrequited transfers from overseas. These receipts are used for Australia's imports of goods and services and payments of property and labour income and unrequited transfers to overseas; the balance of current receipts represents net lending to overseas. Positive net lending to overseas corresponds to a surplus on current transactions with overseas, and negative net lending corresponds to a deficit. The transactions in property income shown in this account differ from estimates shown in balance of payments statistics because, in the national accounts, undistributed company income is not imputed to the beneficial owners. For this reason, net lending to overseas differs from the balance on current account shown in balance of payments statistics.

Estimates at constant prices

In addition to providing an overview of total economic activity, the national accounts provide information on the relationships between different parts of the economy, and also on changes in individual components, and their relationships with each other over time. One of the difficulties involved in interpreting the impact of changes from one period to another is that any observed movement is generally a combination of a change in price and a change in quantity. In many cases, interest lies in the changes in physical quantity underlying the dollar value of transactions. Consequently, the development of series adjusted to remove the effect of price changes is an important extension to a national accounting system. Estimates adjusted in this way are said to be at **constant prices**, whereas national accounting aggregates expressed in terms of the actual dollar values used in transactions are said to be at **current prices.**

An estimate of the change over time in the quantity of an individual commodity produced can be made simply by collecting data on the number of units produced, but the only practicable way in which quantities of diverse goods and services produced (or used) can be aggregated is in terms of money values, such as the value of output or the value of materials used. However, changes in money values may reflect nothing more than changes in the underlying prices. Making estimates at constant (or fixed) prices is the best way of having a common unit of measurement, while avoiding the direct effects of changing prices.

The current price value of a transaction may be expressed conceptually as the product of a price and a quantity. The value of the transaction at constant prices may then be thought of as being derived by substituting, for the current price, the corresponding price in the chosen base year. Aggregates at constant prices for each period are obtained by summing constant price values of the component transactions. In effect, quantities of the commodities involved in the component transactions are combined using their prices in the base year as weights. Constant price estimates are presented in tables for gross domestic product, exports and imports of goods and services, and gross national expenditure and its principal components on the following pages.

Reliability and revisions

Estimates of national income and expenditure are necessarily prepared from a very wide range of statistical information, some of which is available quickly and some of which is available only after a delay of several years. Some of it is closely related to the desired national accounting concepts, but some of it is not completely satisfactory in various respects, including coverage, concepts and timing. Estimates for the most recent years are therefore subject to revision. This applies particularly to estimates based on income tax statistics—income of companies, non-farm unincorporated enterprises, depreciation, and part of private gross fixed capital expenditure—which are subject to substantial revisions for the last couple of years because tabulations of income tax statistics become available progressively one to two years after the end of each financial year.

National Income and Expenditure Tables

The figures shown in the following tables are consistent with data published in *Budget Related Paper No. 2: National Income and Expenditure, 1988–89* (5213.0) and *Australian National Accounts: National Income and Expenditure, June Quarter 1989* (5206.0).

DOMESTIC PRODUCTION ACCOUNT
($ million)

	1986–87	*1987–88*	*1988–89*
Final consumption expenditure—			
Private	155,895	172,625	191,331
Government	48,632	52,577	57,094
Gross fixed capital expenditure—			
Private	45,053	54,712	67,595
Public enterprises	11,124	9,987	10,604
General government	7,814	7,432	7,521
Increase in stocks	–1,510	–561	3,349
Statistical discrepancy	957	2,463	4,823
Gross national expenditure	*267,965*	*299,235*	*342,317*
Exports of goods and services	43,328	50,382	54,024
Less Imports of goods and services	48,044	52,696	60,745
Expenditure on gross domestic product	**263,249**	**296,921**	**335,596**
Wages, salaries and supplements	133,898	147,280	165,079
Gross operating surplus—			
Private trading enterprises—			
Corporate	40,153	46,402	54,734
Unincorporated	29,225	32,517	36,639
Dwellings owned by persons	20,373	23,283	26,659
Public trading enterprises	9,828	12,615	13,738
General government	5,440	5,806	6,247
Financial enterprises	–369	1,147	1,707
Less Imputed bank service charge	6,880	8,630	9,691
Gross domestic product at factor cost	*231,668*	*260,420*	*295,112*
Indirect taxes less subsidies	31,581	36,501	40,484
Gross domestic product	**263,249**	**296,921**	**335,596**
Gross farm product	*9,323*	*11,249*	*12,879*
Gross non-farm product	*253,926*	*285,672*	*322,717*

NATIONAL INCOME AND OUTLAY ACCOUNT

($ million)

	1986–87	*1987–88*	*1988–89*
Wages, salaries and supplements	133,898	147,280	165,079
Net operating surplus	55,209	66,573	80,339
Domestic factor incomes	*189,107*	*213,853*	*245,418*
Less Net income paid overseas	9,328	10,560	12,571
Indirect taxes	35,678	40,847	44,944
Less Subsidies	4,097	4,346	4,460
National income	*211,360*	*239,794*	*273,331*
Less Net unrequited transfers to overseas	–1,213	–1,664	–2,274
National disposable income	**212,573**	**241,458**	**275,605**
Final consumption expenditure—			
Private	155,895	172,625	191,331
Government	48,632	52,577	57,094
Saving	8,046	16,256	27,180
Disposal of income	**212,573**	**241,458**	**275,605**

NATIONAL CAPITAL ACCOUNT

($ million)

	1986–87	*1987–88*	*1988–89*
Consumption of fixed capital	42,561	46,567	49,694
Saving—			
Increase in income tax provisions	2,166	1,366	229
Undistributed income—			
Trading enterprises	–1,551	1,600	5,636
Financial enterprises	–2,633	–1,851	602
Household saving	10,939	12,481	13,472
General government surplus on current transactions	–875	2,660	7,241
Finance of gross accumulation	**50,607**	**62,823**	**76,874**
Gross fixed capital expenditure—			
Private—			
Dwellings	10,944	12,975	18,690
Non-dwelling construction	9,511	12,609	14,639
Equipment	21,411	24,104	27,145
Real estate transfer expenses	3,187	5,024	7,121
Public enterprises	11,124	9,987	10,604
General Government	7,814	7,432	7,521
Total gross fixed capital expenditure	*63,991*	*72,131*	*85,720*
Increase in stocks—			
Private non-farm	–1,199	202	3,021
Farm	52	56	310
Public marketing authorities	–569	–860	52
Other public authorities	206	41	–34
Total increase in stocks	*–1,510*	*–561*	*3,349*
Statistical discrepancy	957	2,463	4,823
Net lending to overseas	–12,831	–11,210	–17,018
Gross accumulation	**50,607**	**62,823**	**76,874**

OVERSEAS TRANSACTIONS ACCOUNT
($ million)

	1986–87	*1987–88*	*1988–89*
Imports of goods and services	48,044	52,696	60,745
Interest, etc., to overseas	9,212	10,126	11,676
Dividends to overseas	1,726	1,929	2,673
Labour income to overseas	197	264	309
Unrequited transfers to overseas—			
Personal	746	783	840
General government	1,058	1,098	1,154
Net lending to overseas	–12,831	–11,210	–17,018
Use of current receipts	**48,152**	**55,686**	**60,379**
Exports of goods and services	43,328	150,382	54,024
Interest, etc., from overseas	989	1,244	1,551
Dividends from overseas	640	300	291
Labour income from overseas	178	215	245
Unrequited transfers from overseas—			
Personal	2,231	2,726	3,371
Income taxes	786	819	897
Current receipts from overseas	**48,152**	**55,686**	**60,379**

EXPENDITURE ON GROSS DOMESTIC PRODUCT AT AVERAGE 1984–85 PRICES
($ million)

	1986–87	*1987–88*	*1988–89*
Final consumption expenditure—			
Private	132,522	137,069	142,113
Government	42,961	44,264	45,837
Gross fixed capital expenditure—			
Private—			
Dwellings	9,441	10,531	13,084
Non-dwelling construction	7,956	9,881	10,690
Equipment	17,174	19,021	22,684
Real estate transfer expenses	2,362	2,936	3,379
Public enterprises	9,417	7,859	7,907
General government	6,779	6,166	5,942
Increase in stocks—			
Private non-farm	–851	290	2,167
Farm	. .	81	225
Public marketing authorities	–513	–763	164
Other public authorities	184	36	–25
Statistical discrepancy	848	2,003	3,647
Gross national expenditure	*228,280*	*239,374*	*257,814*
Exports of goods and services	40,171	42,898	43,309
Less Imports of goods and services	38,802	42,654	53,526
Expenditure on gross domestic product	**229,649**	**239,618**	**247,597**
Gross farm product	*8,613*	*8,077*	*8,331*
Gross non-farm product	*221,036*	*231,541*	*239,266*

MAIN AGGREGATES AT CURRENT PRICES

($ million)

	1	2	3	4	5	6	7 (1 to 6)	8
	Final consumption expenditure		*Private gross fixed capital expenditure*	*Public gross fixed capital expenditure*	*Increase in stocks*	*Statistical discrepancy*	*Gross national expenditure*	*Exports of goods and services*
Year	*Private*	*Government*						
1948–49	3,074	430	538	268	45	–23	4,332	1,142
1949–50	3,541	512	700	385	54	65	5,257	1,302
1950–51	4,320	695	999	555	125	–27	6,667	2,087
1951–52	5,164	940	1,215	742	377	104	8,542	1,481
1952–53	5,475	1,089	1,228	723	–294	–165	8,056	1,850
1953–54	6,013	1,048	1,421	735	109	–125	9,201	1,787
1954–55	6,540	1,127	1,595	787	166	67	10,282	1,702
1955–56	7,023	1,253	1,758	835	229	–50	11,048	1,734
1956–57	7,500	1,324	1,839	846	–45	–125	11,339	2,184
1957–58	7,866	1,380	1,998	886	56	–41	12,145	1,840
1958–59	8,271	1,499	2,072	978	253	–9	13,064	1,850
1959–60	9,084	1,609	2,364	1,078	168	130	14,433	2,144
1960–61	9,634	1,748	2,608	1,110	478	40	15,618	2,165
1961–62	9,936	1,891	2,509	1,317	–219	–137	15,297	2,462
1962–63	10,658	1,991	2,800	1,331	253	–99	16,934	2,483
1963–64	11,527	2,176	3,175	1,480	120	–95	18,383	3,149
1964–65	12,473	2,483	3,687	1,725	561	39	20,968	3,041
1965–66	13,268	2,831	3,957	1,898	109	11	22,074	3,125
1966–67	14,343	3,218	4,150	2,014	360	–58	24,027	3,472
1967–68	15,677	3,723	4,496	2,178	113	–156	26,031	3,559
1968–69	17,070	3,895	5,213	2,321	682	–107	29,074	3,882
1969–70	18,830	4,305	5,663	2,546	440	–2	31,782	4,749
1970–71	20,830	4,904	6,397	2,734	441	–191	35,115	5,066
1971–72	23,158	5,596	6,963	3,150	17	–47	38,837	5,673
1972–73	25,987	6,348	7,726	3,270	–270	73	43,134	7,007
1973–74	30,711	7,931	9,125	3,805	1,166	822	53,560	7,880
1974–75	37,420	10,663	9,671	5,467	1,025	672	64,918	10,087
1975–76	44,733	13,190	12,174	6,213	176	–432	76,054	11,208
1976–77	51,098	15,294	14,397	6,558	1,129	–780	87,696	13,394
1977–78	56,817	17,207	15,455	7,111	–494	–384	95,712	14,228
1978–79	64,068	18,969	18,379	7,554	1,301	–1,335	108,936	16,876
1979–80	72,333	21,268	20,366	8,417	822	–1,515	121,691	21,979
1980–81	82,132	24,914	25,853	9,323	508	–510	142,220	22,531
1981–82	93,780	28,461	30,169	11,268	1,568	–2,771	162,475	23,336
1982–83	105,544	32,369	27,985	13,050	–2,403	–2,071	174,474	25,238
1983–84	116,243	35,827	30,178	14,047	1,393	–2,798	194,890	28,690
1984–85	127,553	40,170	35,957	15,004	1,072	–829	218,927	34,854
1985–86	142,715	44,685	41,393	17,825	1,466	–2,148	245,936	38,801
1986–87	155,895	48,632	45,053	18,938	–1,511	958	267,965	43,328
1987–88	172,625	52,577	54,712	17,419	–563	2,465	299,235	50,382
1988–89	191,331	57,094	67,595	18,125	3,349	4,823	342,317	54,024

MAIN AGGREGATES AT CURRENT PRICES—*continued*

($ million)

Year	*9* *Imports of goods and services*	*10* *(7+8–9) (11+13+14)* *Gross domestic product*	*11* *Wages salaries and supplements*	*12* *Gross operating surplus*	*13*	*14* *Indirect taxes less subsidies*	*15* *National income*	*16* *Household income*
				Trading enterprises	*Total*			
1948–49	979	4,495	2,205	1,819	1,862	428	3,986	3,787
1949–50	1,260	5,299	2,512	2,230	2,284	503	4,711	4,484
1950–51	1,726	7,028	3,163	3,223	3,294	571	6,316	6,140
1951–52	2,437	7,586	4,003	2,689	2,771	812	6,686	6,285
1952–53	1,312	8,594	4,329	3,376	3,477	788	7,547	7,036
1953–54	1,601	9,387	4,612	3,775	3,883	892	8,279	7,395
1954–55	1,983	10,001	5,050	3,861	3,974	977	8,778	7,929
1955–56	1,953	10,829	5,538	4,123	4,231	1,060	9,477	8,598
1956–57	1,736	11,787	5,858	4,621	4,736	1,193	10,334	9,171
1957–58	1,925	12,060	6,085	4,541	4,682	1,293	10,478	9,187
1958–59	1,960	12,954	6,381	5,088	5,229	1,344	11,256	9,889
1959–60	2,284	14,293	7,085	5,614	5,738	1,470	12,370	10,974
1960–61	2,590	15,193	7,634	5,874	5,997	1,562	13,112	11,780
1961–62	2,188	15,571	7,887	6,043	6,177	1,507	13,348	12,222
1962–63	2,596	16,821	8,361	6,671	6,830	1,630	14,440	13,033
1963–64	2,846	18,686	9,140	7,621	7,790	1,756	16,142	14,519
1964–65	3,447	20,562	10,253	8,193	8,370	1,939	17,785	15,879
1965–66	3,588	21,611	11,086	8,165	8,402	2,123	18,564	16,679
1966–67	3,673	23,826	12,118	9,178	9,455	2,253	20,482	18,491
1967–68	4,115	25,475	13,212	9,507	9,804	2,459	21,821	19,463
1968–69	4,250	28,706	14,627	11,031	11,362	2,717	24,675	21,828
1969–70	4,728	31,803	16,452	12,016	12,363	2,988	27,271	24,107
1970–71	5,083	35,098	18,884	12,551	12,981	3,233	30,073	26,925
1971–72	5,232	39,278	21,077	14,055	14,535	3,666	33,608	30,422
1972–73	5,382	44,759	23,562	16,561	17,091	4,106	38,386	34,903
1973–74	7,883	53,557	28,894	19,103	19,560	5,103	46,279	42,692
1974–75	10,359	64,646	37,160	20,745	21,277	6,209	55,236	53,026
1975–76	10,904	76,358	42,790	24,602	25,545	8,023	64,761	61,783
1976–77	13,927	87,163	48,271	28,944	29,864	9,028	73,663	70,943
1977–78	15,180	94,760	53,048	31,427	32,187	9,525	79,374	78,277
1978–79	17,969	107,843	57,027	38,565	39,769	11,047	90,443	87,606
1979–80	21,096	122,574	63,669	44,675	45,814	13,091	102,359	97,857
1980–81	25,077	139,674	74,085	49,755	50,632	14,957	116,462	111,759
1981–82	29,002	156,809	85,679	53,622	54,098	17,032	129,701	128,158
1982–83	28,972	170,740	95,002	55,555	56,353	19,385	139,461	141,032
1983–84	31,197	192,383	100,311	69,163	69,662	22,410	157,689	156,508
1984–85	39,511	214,270	110,666	78,725	77,940	25,664	175,024	172,763
1985–86	46,100	238,637	122,205	89,167	88,106	28,326	192,910	192,076
1986–87	48,044	263,249	133,898	99,579	97,770	31,581	211,361	211,579
1987–88	52,696	296,921	147,280	114,817	113,140	36,501	239,794	233,684
1988–89	60,745	335,596	165,079	131,770	130,033	40,484	273,331	260,699

GROSS DOMESTIC PRODUCT AT AVERAGE 1984–85 PRICES

($ million)

Year	*Final consumption expenditure*		*Gross fixed capital expenditure*			*Increase in stocks*	*Statistical discrepancy*	*Gross national expenditure*	*Plus exports of goods and services*	*Less imports of goods and services*	*Gross domestic product*
				Public							
	Private	*Government*	*Private*	*Public enterprises*	*General government*						
1948–49	32,875	7,844	62,14	3,361		619	–267	50,646	5,678	6,289	50,035
1949–50	34,870	8,478	7,356	4,435		309	699	56,147	6,015	7,617	54,545
1950–51	37,476	9,535	8,821	5,612		1,005	–252	62,197	5,736	9,087	58,846
1951–52	37,268	10,784	8,808	6,395		2,713	819	66,787	5,219	10,318	61,688
1952–53	36,387	11,287	8,076	5,612		–1,972	–1,187	58,203	6,453	5,954	58,702
1953–54	38,874	10,502	9,112	5,477		744	–868	63,841	6,345	7,777	62,409
1954–55	41,435	10,868	9,837	5,667		1,022	453	69,282	6,501	9,455	66,328
1955–56	42,743	11,127	10,189	5,761		1,359	–321	70,858	7,057	8,948	68,967
1956–57	43,121	11,348	10,296	5,616		–230	–762	69,389	7,957	7,648	69,698
1957–58	44,559	11,539	10,916	5,812		401	–246	72,981	7,106	8,405	71,682
1958–59	45,942	12,439	11,223	6,328		1,466	–53	77,345	8,096	8,650	76,791
1959–60	49,010	11,942	12,804	6,761		793	778	82,088	8,772	10,392	80,468
1960–61	49,903	12,442	13,736	6,787		2,259	217	85,344	9,207	11,717	82,834
1961–62	51,184	13,107	13,029	7,819		–924	–751	83,464	10,443	9,983	83,924
1962–63	54,325	13,607	14,454	7,829		1,257	–531	90,941	10,221	11,726	89,436
1963–64	57,798	14,233	16,142	8,490		650	–489	96,824	11,883	13,007	95,700
1964–65	60,478	15,491	18,077	9,522		2,395	212	106,175	11,853	15,518	102,510
1965–66	62,315	17,150	18,939	10,203		560	64	109,231	12,008	15,908	105,331
1966–67	65,324	18,506	19,257	10,394		1,429	–273	114,637	13,356	16,126	111,867
1967–68	69,093	20,453	20,379	10,854		784	–717	120,846	14,178	18,054	116,970
1968–69	73,167	20,419	22,651	11,148		2,689	–462	129,612	15,223	18,635	126,200
1969–70	77,937	21,353	23,886	11,695		2,099	26	136,996	17,881	20,573	134,304
1970–71	81,184	22,180	25,723	11,862		1,536	–739	141,746	19,626	20,418	140,954
1971–72	84,511	23,060	26,139	12,686		–935	–155	145,306	21,119	19,773	146,652
1972–73	89,225	23,868	26,972	12,366		–1,135	323	151,619	21,562	20,009	153,172
1973–74	94,085	25,579	27,940	12,611		3,447	2,666	166,328	20,231	26,273	160,286
1974–75	96,237	27,677	24,068	7,039	7,488	2,756	1,848	167,113	22,105	27,021	162,197
1975–76	99,344	29,668	25,969	6,509	7,772	33	–883	168,412	22,898	25,374	165,936
1976–77	101,743	30,732	27,501	6,558	6,917	2,358	–1,457	174,352	24,438	28,196	170,594
1977–78	103,605	31,873	26,970	6,873	6,657	–945	–634	174,399	25,012	27,060	172,351
1978–79	107,211	32,946	29,687	7,156	6,258	2,370	–2,166	183,462	27,241	29,330	181,373
1979–80	109,726	33,540	30,111	7,582	5,789	1,412	–2,250	185,910	29,285	29,219	185,976
1980–81	113,480	35,024	34,440	8,001	5,321	671	—647	196,290	27,840	31,955	192,175
1981–82	118,424	35,370	36,498	9,183	5,169	1,799	–3,389	203,054	28,183	35,560	195,677
1982–83	120,232	36,356	30,800	9,519	5,074	–2,536	–2,304	197,141	28,303	32,510	192,934
1983–84	123,272	37,930	31,765	9,378	5,472	1,727	–2,937	206,607	30,699	34,194	203,122
1984–85	127,553	40,170	35,957	8,881	6,123	1,071	–829	218,927	34,854	39,511	214,270
1985–86	131,824	41,959	37,107	9,772	6,609	1,258	–1,933	226,596	36,904	40,097	223,403
1986–87	132,522	42,961	36,933	9,417	6,779	–1,180	848	228,280	40,171	38,802	229,649
1987–88	137,069	44,264	42,369	7,859	6,166	–356	2,003	239,374	42,898	42,654	239,618
1988–89	142,113	45,837	49,837	7,907	5,942	2,531	3,647	257,814	43,309	53,526	247,597

NOTE: Estimates prior to 1974–75 have been derived from estimates valued at the average prices of earlier base years

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FOREIGN TRANSACTIONS

This chapter includes statistics of foreign trade, balance of payments, foreign investment and foreign participation in enterprises in Australia.

FOREIGN TRADE

Introduction

Foreign trade statistics provide essential information about Australia's balance of trade and important details about goods traded with the rest of the world.

Governments use the statistics to formulate and monitor trade and budgetary policies.

Some details of Australian trade policy objectives and the international and bilateral trade agreements and arrangements are included in the 1989 and earlier issues of the *Year Book*.

The Australian Trade Commission (AUSTRADE) was formed in January 1986 to provide a wide range of services to exporters. These include:

- provision of **finance** to overseas borrowers for the purchase of Australian capital goods and services;
- a wide range of **insurance services** to cover Australian exporters of goods and services against such things as non-payment or protracted delay in payment and against unfair calling of bonds and guarantees;
- an **export incentive scheme** in the form of cash grants for such overseas activities as market research, fares, representation, advertising and the cost of participating in overseas trade displays;
- assistance to Australian businesses in obtaining contracts associated with **overseas projects**;
- provision of information on overseas commercial opportunities direct to Australian companies through the **Trade Commission Service**;
- **services for investment**, joint ventures, technology transfer and industrial cooperation between Australian and foreign firms where the activity is directed towards increasing the international competitiveness and export capability of Australian industry;
- **the Company Export Planning (CEP) service** which assists Australian exporters to identify a product's export potential, specific country markets and strategies for export;
- **trade displays and publicity overseas** to create an awareness of Australian goods and services in overseas markets; and
- arrangement of **trade missions** designed to explore prospects in new or developing areas and the coordination of visits to Australia by overseas buyers.

More detailed information on the activities of AUSTRADE can be obtained from AUSTRADE's Reports and papers.

Importers, exporters, manufacturers and shipping companies use foreign trade statistics to:

- monitor import penetration and export performance;
- examine the transport implications of commodity markets; and
- monitor commodity price and volume changes.

Additionally, foreign trade statistics are used in the production of other ABS statistics, including:

- balance of payments;
- national accounts;
- shipping and air cargo commodity statistics;
- aggregates of international trade published at constant prices;
- export, import and terms of trade indexes; and
- wholesale prices, quantum indexes, input/output and agricultural statistics.

Collection and Presentation of Statistics

Source of data

Foreign trade statistics are compiled by the Australian Bureau of Statistics from documentation submitted by exporters and importers or their agents to the Australian Customs Service (ACS) as required by the Customs Act.

The ACS performs amongst other things, import/export and barrier control functions. This involves monitoring the arrival and departure of all international vessels, their crews and cargoes and items mailed from overseas to ensure that goods are brought to account and not delivered without authority and to prevent the importation and exportation of prohibited goods.

For cargoes arriving in and departing from Australia, importers, exporters or their agents are required to lodge, either electronically or on paper, documentation which includes information about the type, quantity and value of goods being imported or exported. This information is used by the ACS to assess and collect Customs duty and other revenue payable on imported and exported goods and to facilitate the monitoring and control of the physical movement of goods into and out of Australia. Once the ACS has finalised processing this documentation for its own purposes, the information is passed on to the ABS for statistical processing. More detailed information on the activities of the ACS can be obtained from its reports and papers.

Scope of the statistics

The statistics presented below are, with one exception, recorded on a *general trade* basis, i.e., total exports include both Australian produce and re-exports, and total imports comprise goods entered directly for home consumption together with goods imported into bonded warehouses. The statistics of import clearances, however, are recorded on a *special trade* basis, i.e., clearances comprise goods entered directly for home consumption together with goods cleared into the home market from bonded warehouses. Exports of Australian produce are goods, materials or articles which have been produced, manufactured or partly manufactured in Australia, except goods which were originally imported and have undergone only repair or minor operations which leave them essentially unchanged. Re-exports are goods, materials or articles originally imported which are exported either in the same condition in which they were imported or after undergoing repair or minor operations which leave them essentially unchanged. Minor operations include blending, packaging, bottling, cleaning, sorting, husking or shelling. Total exports are the aggregate of exports of Australian produce and re-exports.

The following are excluded from recorded trade statistics:

(a) direct transit trade, i.e. goods being trans-shipped or moved through Australia for purposes of transport only;

(b) migrants' and passengers' effects exported or imported; and parcel post exports and imports of small value, for which Customs entries are not required;

(c) certain materials under inter-governmental agreements for defence and similar projects for which Customs entries are not required;

(d) ships and aircraft engaged in the transport of passengers or goods between Australia and other countries;

(e) the sale or purchase of certain ships intended for use on overseas routes;

(f) the sale or purchase, prior to 1 July 1987, of certain aircraft intended for use on overseas routes. From 1 July 1987, purchases of all aircraft (and parts and components) intended for use on overseas routes are included in recorded import statistics. Sales of aircraft (and parts and components) which were imported into Australia on or after 1 July 1987 for use on overseas routes are included in recorded export statistics.

(g) fish and other sea products landed in Australia or abroad directly from the high seas by Australian ships;

(h) from 1 July 1986, export consignments where the value of the goods in each transaction is less than $500. Prior to that date, transactions below $250 were excluded;

and for imports only:

(i) entries lodged on informal clearance documents (ICDs) for values not exceeding $250. In addition, from 21 October 1985 onwards, ICDs for postal articles valued up to $1,000 are excluded;

(j) bunkers and stores supplied to ships and aircraft prior to arrival in Australia.

Statistical period

Exports

Historically, paper documents relating to exports have been lodged by exporters or their agents with the ACS. This system of lodgment is referred to as the 'paper-based' system of lodgment.

Exports lodged under this paper-based system are recorded statistically in the month the entries are processed by the Australian Customs Service. Regular exporters or their agents may provide details of their export shipments on a periodic rather than an individual shipment basis by submitting weekly or monthly returns. These 'periodic returns' must be submitted to the Australian Customs Service within seven days of the end of the period in question covering all shipments during that period. All other exporters are required to report each individual shipment prior to the ship's departure. Approximately 90 per cent of monthly export values lodged via the paper-based system are recorded on periodic returns. The statistical month for Customs outports (generally ports other than those at which the main Customs Office in each State is located) closes on the twenty-first of each month, whereas for main ports the statistical month is the calendar month. Because of the way in which exports data are lodged via the paper-based system, export statistics for a particular month do not necessarily represent all of the commodities actually exported during that month. Analysis of past data has shown that in aggregate approximately 40 per cent of export trade by value for a particular month reflects actual shipments during that month, 55 per cent by value was actually exported during the previous month with the remaining 5 per cent by value exported in earlier months. For individual commodities the percentage by value representing actual exports in a month may vary considerably.

Introduction of EXIT (Exports Integration)

On 12 December 1988 the ACS commenced the progressive implementation of EXIT, a new system for electronically processing and recording export information and for clearance of outward sea and air cargo manifests.

The EXIT system will lead to an improvement in timing basis used in compiling export statistics. Under EXIT, exports will be recorded in the month of shipment rather than in the month the export documents are processed by the ACS. Consequently foreign trade export statistics will more accurately reflect actual shipments during that month.

In order to maintain a consistent time series while EXIT is being progressively introduced, export information reported electronically is adjusted to record it in foreign trade export statistics in the statistical period in which it would have been recorded under the paper-based system. This adjustment will continue to be made for an interim period. After EXIT is fully operational the foreign trade export series will be compiled on a shipping date basis.

Imports

Imports are recorded statistically in the calendar month in which the import entries are finalised by the ACS. Import entries may be lodged early using the check-to-arrive system or the documents may be delayed because of various validation checks carried out by Customs prior to the entries being passed to the ABS. Import statistics for a particular month do not necessarily represent entries lodged or commodities actually imported during the month in question. Analysis of past data has shown that in aggregate approximately 70 per cent of import trade by value recorded for a particular month was actually imported during that month, 25 per cent was actually imported during the previous month with the remaining 5 per cent being imported in earlier months. For individual commodities the percentage by value representing actual imports in a month may vary considerably.

State

For exports, State statistics comprise the State of origin for Australian produce. State of origin is defined as the State in which the final stage of production or manufacture occurs.

For imports, the State is that in which the import entry was lodged with the Australian Customs Service. The port of lodgement of the import entry is not necessarily the port of discharge of the goods. Goods forwarded interstate after import, whether in containers or not, are recorded as being imported at the port of lodgement of the import entry.

Valuation

Exports

Goods actually sold to overseas buyers prior to shipment are valued at the free-on-board (f.o.b.) Australian port of shipment equivalent of the actual price at which the goods were sold. Goods shipped on consignment are valued at the f.o.b. Australian port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods are dispatched for sale. The recorded value of exports includes the value of the outside package, other than international containers used for containerised cargo.

Imports

The recorded value of imports is the customs value (formerly referred to as the value for duty). On 30 November 1981, Australia changed its system of valuation from the Brussels Definition of Value (BDV) to the GATT Agreement on Customs Valuation. The GATT Agreement differs from the BDV in that it offers a set of practical rules on the valuation of imports rather than a list of conceptual guidelines. Under the Agreement the primary basis for establishing the customs value is the price actually paid or payable, provided a number of conditions are met. The most important condition is that the buyer and seller must be independent of each other. If the conditions are not met, the practical rules are used to determine the customs value. The recording of the value of imports remains on a free-on-board (f.o.b.) basis (i.e. the charges and expenses involved in delivering the goods from the place of exportation to Australia are excluded). However, the place of exportation need not be the port of shipment. Up until 30 June 1989, and depending on the contractual arrangements made for the transport of the goods, the place of exportation may be ex-factory, point of containerisation, customs frontier or port of shipment. From 1 July 1989 the introduction of the Customs and Excise Legislation Amendment Act 1989 (CELA) has restricted the choice of the place of exportation for customs valuation purposes to include at least all charges incurred up to the point of containerisation. As for exports, the recorded value of imports includes the value of outside packages, other than international containers used for containerised cargo. For details of the method of valuation used prior to 30 November 1981, *see Year Book* No. 66.

Merchandise exports and imports

In accordance with standards recommended by the United Nations:

(a) *Merchandise exports* are defined as all goods which subtract from the stock of material resources in Australia as a result of their movement out of the country. Merchandise exports, therefore, exclude goods exported with the reasonable expectation of re-import within a limited time, for example, goods for temporary exhibition outside Australia.

(b) *Merchandise imports* are defined as all goods which add to the stock of material resources in Australia as a result of their movement into the country. Merchandise imports, therefore, exclude goods imported with the reasonable expectation of re-export within a limited time, for example, goods for temporary exhibition in Australia.

From July 1985, non-merchandise trade is excluded from Australia's export and import statistics. This is in accordance with United Nations' recommendations and practices adopted by Australia's major trading partners. Statistics for periods prior to July 1985 included in this publication have been adjusted to be comparable with data from July 1985 onwards and, consequently, will not be directly comparable with previous publications.

For periods prior to 1 July 1987, trade in gold coins, whether or not they are legal tender, and other coins which are legal tender is classified as non-merchandise trade; for periods from 1 July 1987 these commodities are excluded from non-merchandise trade and are included in total exports and imports. The explanation for the change and for purposes of comparison, exports and imports data by country for 1985–86, 1986–87 and 1987–88 are shown in Appendix A of the January 1989 issue of *Exports, Australia, Monthly Summary Tables* (5432.0).

Commodity classifications

Up until the end of December 1987, Australia's customs tariff was based on the *Customs Co-operation Council Nomenclature* (CCCN), an international classification for describing goods for customs and other purposes. From 1 January 1988 Australia's customs tariff has been based on the *Harmonized Commodity Description and Coding System* (HCDCS) or *Harmonised System* (HS). The HS is a modernisation, reorganisation and extension of the CCCN.

To coincide with the introduction of the HS, Australia also adopted, from 1 January 1988, the third revision of the *Standard International Trade Classification* (SITC). This replaced the second revision of the SITC. The third revision of the SITC incorporates significant changes to the numbering system and overall structure to align it more closely with the HS.

Commodity statistics for 1986–87 and 1987–88 shown in this issue of the *Year Book* are presented according to the divisions of the second revision of the SITC, while those for 1988–89 are presented according to the third revision of the SITC.

Consequently, commodity statistics for 1988–89 are not fully comparable to those for earlier years. However, differences are significant only for a few divisions. A comparison of 1988–89 data compiled on a SITC (Rev2) and a SITC (Rev3) basis is provided in Appendix B of *Foreign Trade, Australia, Comparative Summary Tables, 1988–89* (5410.0) along with an explanation of the major differences.

Australian Standard Commodity Classification

The *Australian Standard Commodity Classification* (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the *Australian Standard Industrial Classification)* in which they are typically produced.

The ASCC manual was last released in respect of the financial year 1984–85. Since then a complete review of manufacturing commodity items has been undertaken and it is planned to publish these new items in the *Australian Manufacturing Production Commodity Classification* (AMPCC). The AMPCC will contain a detailed set of linkages to the trade classifications to facilitate comparison. In view of this, the content of future editions of the ASCC is currently being examined. (*See* Chapter 18, Manufacturing, Retail Trade and Service Industries).

Industry of origin

Export and import statistics are classified according to subdivisions of the *Australian Standard Industry Classification* (ASIC). The statistics are compiled by allocating statistical items of the appropriate export or import commodity classification to the ASIC industry of origin with whose main economic activities the commodities are primarily associated. A full description of ASIC classes is contained in the publication *Australian Standard Industrial Classification, Vol. 1—The Classification* (1201.0).

Broad Economic Categories

Exports and imports of merchandise are classified according to the nineteen categories of the United Nations classification of Broad Economic Categories (BEC). BEC attempts to classify foreign trade statistics for the purposes of general economic analysis according to the main end use of the commodities traded.

Country

For the purposes of foreign trade statistics, a country is defined as a geographical entity which trades, or has the potential to trade, with Australia in accordance with Australian Customs provisions. External territories under Australian administration *are* treated separately while self-governing territories and dependant territories under the administration of other countries *may* be treated as individual countries in Australian foreign trade statistics.

Exports: for exports, country refers to the *country* to which the goods were consigned at the time of export. Where it was found to be impossible to determine the destination, goods are recorded as *Destination unknown.*

Imports: for imports, *country* refers to the country of origin of the goods which is defined as the country of production for customs purposes. Where it is found to be impossible to determine the origin, goods are recorded as *Origin unknown.*

Quantity data

Where quantities are shown they are as specified in the appropriate export or import commodity classification, which are generally expressed in terms of the normal unit of quantity used in the appropriate industry. Quantities are not tabulated in respect of statistical items for which there is no appropriate unit of quantity (e.g. a statistical item which covers a number of commodities that cannot be recorded under a single unit of quantity).

Excess of exports or imports

The excess of the value of exports or imports does not represent the balance of trade. The balance of trade is the excess of exports or imports on a *balance of payments* basis. Details of the adjustments (relating to coverage, timing and valuation) made to total recorded exports and imports for balance of payments purposes, are set out in the annual publication *Balance of Payments, Australia* (5303.0).

Treatment of confidential data

To ensure that information about the activities of particular businesses is not disclosed, it is necessary to restrict the release of statistics of certain commodities. These restrictions do not affect total export or import figures but they can affect statistics at all levels.

Foreign Trade Statistics

Total foreign trade

The following table shows the total Australian trade with foreign countries from 1983–84 to 1988–89.

FOREIGN TRADE(a)
($ million)

Year	*Exports*	*Imports*	*Excess of exports (+) or imports (–)*
1983–84	24,013	23,540	+473
1984–85	29,708	29,049	+659
1985–86	32,795	34,691	–1,896
1986–87	35,806	36,988	–1,182
1987–88	41,078	40,597	+481
1988–89	43,462	47,064	–3,602

(*a*) For periods from 1 July 1987, trade in gold coins, whether or not they are legal tender, and other coins which are legal tender is included in total exports and total imports. For periods prior to 1 July 1987 these commodities are included in non-merchandise trade.

The following table shows particulars of non-merchandise trade for recent years.

NON-MERCHANDISE TRADE(a)
($ million)

Year	*Exports*	*Imports*
1983–84	753	521
1984–85	834	971
1985–86	1,418	1,045
1986–87	1,393	1,176
1987–88	1,484	1,343
1988–89	1,621	1,039

(*a*) For periods prior to 1 July 1987, trade in gold coins, whether or not they are legal tender, and other coins which are legal tender is included in non-merchandise trade. For periods from 1 July 1987 these commodities are included in total exports and total imports.

Classified summary of Australian foreign trade

The following table shows exports and imports according to divisions of the SITC. Data for the period January to June 1988, while collected according to the codes of the HS, have been recompiled on the basis of SITC (Rev2), so as to present annual figures for 1986–87 and 1987–88 on a comparable basis. Data for 1988–89 has been classified according to the SITC (Rev3).

See the section on Commodity Classification in this chapter for details.

EXPORTS AND IMPORTS ACCORDING TO DIVISIONS OF THE SITC(a)
($ million)

	Exports			*Imports*		
Divisions of the SITC Rev 3	*1986–87*	*1987–88*	*1988–89*	*1986–87*	*1987–88*	*1988–89*
00 Live animals other than fish, crustaceans, molluscs and aquatic invertebrates	319.3	299.4	301.7	112.8	147.3	156.4
01 Meat and meat preparations	2,248.9	2,558.8	2,249.3	16.3	19.2	30.3
02 Dairy products and birds' eggs	467.2	503.2	566.6	80.9	87.4	91.1
03 Fish (not marine mammals), crustaceans, molluscs and aquatic invertebrates, and preparations thereof	599.8	732.0	594.0	422.6	409.3	437.5
04 Cereals and cereal preparations	2,792.6	2,297.2	2,742.2	72.8	73.9	72.1
05 Vegetables and fruit	550.6	603.1	525.8	271.4	282.3	375.1
06 Sugars, sugar preparations and honey	715.9	719.8	925.1	28.3	33.7	43.6
07 Coffee, tea, cocoa, spices, and manufactures thereof	65.3	63.8	64.8	404.9	378.6	352.5
08 Feeding stuff for animals (excl. unmilled cereals)	210.3	247.1	266.7	54.5	50.6	73.0
09 Miscellaneous edible products and preparations	47.9	75.5	94.8	147.1	186.5	201.3
11 Beverages	132.8	225.0	228.3	210.7	234.1	281.6
12 Tobacco and tobacco manufactures	18.6	23.4	20.5	116.1	110.5	92.4
21 Hides, skins and furskins, raw	542.3	687.4	498.1	3.8	9.9	12.5
22 Oil seeds and oleaginous fruits	40.4	30.0	70.1	9.6	18.6	49.8
23 Crude rubber (incl. synthetic and reclaimed)	5.6	7.2	15.8	87.7	99.5	113.7
24 Cork and wood	361.1	394.9	424.2	297.5	382.4	561.3
25 Pulp and waste paper	27.6	31.5	37.0	171.1	224.8	224.1
26 Textile fibres and their wastes (not manufactured into yarn or fabric)*(a)*	3,870.1	5,600.3	6,254.1	150.4	164.9	179.1
27 Crude fertilisers (excl. those of Division 56) and crude minerals (excl. coal, petroleum and precious stones	103.0	173.9	233.7	224.2	248.2	282.5
28 Metalliferous ores and metal scrap*(b)*	4,849.7	5,284.6	6,345.2	38.9	68.9	77.8
29 Crude animal and vegetable materials, nes	97.4	118.4	123.6	100.0	104.3	107.5
32 Coal, coke and briquettes	5,456.1	4,849.1	4,744.0	2.8	5.1	11.1
33 Petroleum, petroleum products and related materials	1,621.8	1,942.5	1,464.2	1,742.3	2,040.2	2,000.0
34 Gas, natural and manufactured	230.9	245.2	161.2	4.3	4.8	3.7
41 Animal oils and fats	89.6	117.1	105.0	2.0	1.5	2.9
42 Fixed vegetable fats and oils, crude, refined or fractionated*(b)*	22.9	12.6	10.7	64.3	89.7	101.5
43 Fats and oils (processed), waxes and inedible mixtures or preparations, of animal or vegetable origin, nes*(c)*	11.4	8.4	10.6	25.2	16.6	12.9
51 Organic chemicals*(c)*	50.8	96.0	96.9	881.0	1,106.6	1,164.3
52 Inorganic chemicals*(b)(c)*	66.1	78.9	91.5	321.6	515.3	683.1
53 Dyeing, tanning and colouring materials*(c)*	35.2	82.5	140.5	189.0	195.0	217.3
54 Medicinal and pharmaceutical products*(b)*	166.3	205.0	232.6	508.0	646.8	694.1
55 Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations	57.2	75.9	94.5	241.4	269.4	292.1
56 Fertilisers (excl. crude)	5.3	7.1	7.2	139.8	138.0	213.5
57 Plastics in primary forms*(a)(c)*	5.4	6.5	148.0	14.1	30.4	717.0
58 Plastics in non-primary forms*(a)(c)*	136.7	168.4	60.1	783.9	924.2	444.9
59 Chemical materials and products, nes*(c)*	141.8	171.0	194.9	393.8	450.1	560.9
61 Leather, leather manufactures, and dressed furskins, nes	118.5	172.0	146.8	151.6	168.0	150.7
62 Rubber manufactures, nes*(c)*	42.7	66.4	65.7	461.9	571.1	682.3
63 Cork and wood manufactures (excl. furniture)*(b)*	9.2	12.9	11.4	169.1	188.7	233.3
64 Paper, paperboard, and articles of paper pulp, of paper or of paperboard*(b)(c)*	103.9	98.8	123.1	1,012.7	1,206.1	1,296.5
65 Textile yarn, fabrics, made-up articles, nes, and related products*(a)(c)*	245.7	311.7	151.8	1,831.1	1,926.3	1,999.4
66 Non-metallic mineral manufactures, nes*(b)(c)*	174.8	256.7	337.4	712.5	849.5	966.1

EXPORTS AND IMPORTS ACCORDING TO DIVISIONS OF THE SITC(a)—*continued*
($ million)

	Exports			Imports		
Divisions of the SITC Rev 3	*1986–87*	*1987–88*	*1988–89*	*1986–87*	*1987–88*	*1988–89*
67 Iron and steel	590.8	506.7	497.1	634.4	835.7	1,077.9
68 Non-ferrous metals*(b)*	2,311.7	3,252.1	4,163.5	202.9	249.7	358.7
69 Manufactures of metals, nes*(c)*	243.5	276.7	326.8	1,008.9	1,133.1	1,191.8
71 Power generating machinery and equipment	295.6	350.6	311.0	1,216.8	1,210.4	1,126.0
72 Machinery specialised for particular industries*(c)*	305.7	313.1	339.0	1,735.4	1,988.3	2,360.3
73 Metal working machinery	25.8	38.1	37.5	481.2	383.4	375.7
74 General industrial machinery and equipment, nes and machine parts, nes*(c)*	236.7	286.0	334.8	1,984.1	2,289.2	2,522.9
75 Office machines and automatic data processing machines	390.0	440.2	398.4	2,558.1	2,646.5	3,326.6
76 Telecommunications and sound recording and reproducing apparatus and equipment	87.7	116.4	162.6	1,497.0	1,508.3	1,717.8
77 Electrical machinery, apparatus, appliances, parts (incl. non-elec. counterparts of electrical domestic equip)	255.5	289.9	287.2	1,885.8	2,142.3	2,359.3
78 Road vehicles (incl. air-cushion vehicles)	438.2	524.8	404.6	2,719.5	3,139.1	4,806.9
79 Transport equipment (excl. road vehicles)	576.6	372.7	421.5	1,311.6	1,061.0	2,038.8
81 Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, nes	15.6	14.0	27.3	75.4	97.8	124.6
82 Furniture, parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	33.7	40.8	36.9	235.3	254.9	284.9
83 Travel goods, handbags and similar containers	4.2	4.3	4.8	179.7	186.6	190.5
84 Articles of apparel and clothing accessories	38.8	58.1	64.0	656.6	721.2	759.1
85 Footwear	9.4	10.1	15.4	250.8	269.8	338.1
87 Professional, scientific and controlling instruments and apparatus, nes	176.6	215.4	196.4	907.0	960.8	1,066.1
88 Photographic apparatus, equipment and supplies and optical goods, nes; watches and clocks*(c)*	249.6	277.4	263.3	720.0	716.5	782.2
89 Miscellaneous manufactured articles, nes*(c)*	325.7	405.9	437.7	2,160.2	2,367.5	2,882.9
93 Special transactions and commodities not classified according to kind	n.a.	n.a.	150.7	n.a.	n.a.	752.2
95 Gold coin whether or not legal tender, and other coin being legal tender*(d)*	n.a.	n.a.	242.6	n.a.	n.a.	20.1
96 Coin (excl. gold coin), not being legal tender	n.a.	n.a.	1.3	n.a.	n.a.	0.3
97 Gold, non-monetary (excl. gold ores and concentrates)	n.a.	n.a.	2,487.4	n.a.	n.a.	150.6
98 Combined confidential items of trade*(e)*	n.a.	n.a.	870.7	n.a.	n.a.	187.0
Total Trade*(f)*	**35,806.4**	**41,077.8**	**43,462.2**	**36,988.1**	**40,596.6**	**47,064.2**

(a) Data through 1987-88 are classified according to the SITC Revision 2. From 1988-89 SITC Revision 3 has been adopted. Divisions significantly affected by the change in classification are footnoted. *See* Appendix B for details of the 1988–89 issue of the 5410.0 publication. *(b)* Excludes export commodities subject to a confidentiality restriction. These are included in Division 98. *See* Appendix D of the 1988–89 issue of the 5410.0 publication for details. *(c)* Excludes import commodities subject to a confidentiality restriction. These are included in Division 98. *See* Appendix E of the 1988–89 issue of the 5410.0 publication for details. *(d)* Division 95 is a dummy SITC Rev3 code used to record the value of these commodities as merchandise trade. In previous issues these commodities were included in non-merchandise trade. *See* Appendix A of the 1988–89 issue of the 5410.0 publication for details. *(e)* Includes export and import commodities subject to a confidentiality restriction. *See* Appendices D and E of the 1988–89 issue of the 5410.0 publication for details *(f)* Includes exports and imports of gold coins, whether or not they are legal tender and other coins which are legal tender. *See* Appendix A of the 1988–89 issue of the 5410.0 publication for details.

EXPORTS OF MAJOR COMMODITIES BASED ON STANDARD INTERNATIONAL TRADE CLASSIFICATIONS (SITC) REV3, 1988-89

Commodity Description	*$ million*
Aircraft and associated equipment; spacecraft (incl. satellites) and spacecraft launch vehicles; and parts thereof (792)	275.1
Alumina (aluminium oxide) (285.20)	2,220.3
Aluminium (684)	2,720.2
Barley unmilled (043.00)	232.0
Cars and other road vehicles (incl. air-cushioned vehicles) (78)	404.6
Cheese and curd (024)	183.4
Coal, whether or not pulverised but not agglom (321)	4,645.6
Copper ores and concentrates (283.10)	209.0
Copper and copper alloys unwrought (excl. master alloys) (682.11,12,14)	369.4
Cotton (other than linters), not carded or combed (263.10)	462.8
Crustaceans, molluscs and aquatic invertebrates (036)	465.0
Fruit and nuts, fresh, dried and preserved and fruit (057:059)	313.4
Gas, natural and manufactured (342,343,344,345)	161.2
Gold, non-monetary (excl. gold ores and concentrates) (971)	2,487.4
Hides and skins, bovine and equine, raw(211.11,12,13,20)	274.2
Iron and steel (67)	497.1
Iron ore concentrates and agglomerates (excl. roasted iron pyrites) (281.50,60)	1,775.7
Lead and lead alloys unwrought (685.11,12)	345.4
Machinery specialised for particular industries (72)	339.0
Meat of bovine animals (fresh, chilled or frozen) (011.11:22)	1,770.1
Meat of sheep and goats (fresh, chilled or frozen) (012.11,12,13)	262.3
Milk and cream and milk products other than butter or cheese (022)	314.1
Nickel and nickel alloys, unwrought (683.11,12)	232.4
Nickel ores, concentrates, mattes and sinters (284.2)	336.3
Office machines and automatic data processing machines (75)	398.4
Ores and concentrates of molybdenum, niobium, titanium etc (287.81-85)	515.1
Petroleum oils and oils obtained from bituminous minerals, crude (333)	563.6
Petroleum products (334,335)	900.6
Photographic and cinematographic supplies (882)	186.7
Plastics in primary and non-primary form (57,58)	208.1
Power generating machinery and equipment (71)	311.0
Rice (042)	150.0
Sheep and goats, live (001.21,22)	205.7
Skins, sheep and lamb, with wool on raw (211.60)	204.2
Sorghum, unmilled (045.30)	41.6
Sugar, beet or cane, raw, in solid form (061.11,12)	854.5
Uranium and thorium ores and concentrates (286.10,20)	415.3
Wheat (incl. spelt) and meslin, unmilled (041)	2,108.8
Wood in chips or particles (246.11,15)	406.8
Wool, greasy (incl. fleece-washed wool) (268.11,19)	4,604.9
Other wool, not carded or combed (268.21,29)	929.9
Zinc and zinc alloys, unwrought (686.11,12)	357.1
Zinc ores and concentrates (287.50)	424.3
Total major commodities(a)	*35,082.0*
Total Exports*(b)*	**43,462.2**

(a) Excludes commodities subject to a No Commodity Details restriction. *See* Appendix E of the 1988–89 issue of the 5410.0 publication for details. *(b)* Total exports includes exports of gold coins, whether or not they are legal tender, and other coins which are legal tender. *See* Appendix A of the 1988–89 issue of the 5410.0 publication for details.

IMPORTS OF MAJOR COMMODITIES BASED ON STANDARD INTERNATIONAL TRADE CLASSIFICATIONS (SITC) REV3, 1988-89

Commodity Description	*$ million*
Aircraft and associated equipment; spacecraft (incl.satellites) and spacecraft launch vehicles; and parts thereof (792)	1,653.1
Articles of apparel and clothing accessories (84)	759.1
Automatic data processing machines and units thereof (752)	1,961.1
Baby carriages, toys, games and sporting goods (894)	419.8
Chemical materials and products, nes (59)(a)	560.9
Civil engineering and contractors' plant and equipment (723)(a)	690.5
Clay and refractory construction materials and mineral manufactures, nes (662,663)	356.0
Coffee and coffee substitutes (071)	157.2
Electrical apparatus for switching or protecting electrical circuits (772)	482.0
Electrical machinery and apparatus nes (778)	696.6
Fish, crustaceans, molluscs and aquatic invertebrates, and preparations thereof (03)	437.5
Glass, glassware and pottery (664,665,666)(a)	388.0
Household type, electrical and non-electrical equipment nes (775)	429.7
Inorganic chemicals (52)(a)	683.1
Internal combustion piston engines, and parts thereof nes (713)	607.4
Iron and steel (67)	1,077.9
Machinery and equipment specialised for particular industries and parts thereof (728)	543.8
Manufactures of base metals nes (699)	413.6
Measuring, checking, analysing and controlling instruments and apparatus nes (874)	814.3
Medical and pharmaceutical products (54)	694.1
Motor vehicles for the transport of goods (782.10)	1,260.2
Non-electrical parts and accessories of machinery nes (749)	118.7
Organic chemicals (51)(a)	1,164.3
Paper, paperboard and articles of paper pulp, of paper or of paperboard (64)(a)	1,296.5
Parts and accessories of motor vehicles and tractors, track-laying and wheeled (784)	959.0
Parts and accessories for office and automatic data processing machines (759)	1,016.5
Passenger motor vehicles (other than public transport type vehicles) incl. station wagons and racing cars (781)	2,231.1
Petroleum oils and oils obtained from bituminous minerals, crude (333)	994.5
Petroleum oils and oils obtained from bituminous minerals (other than crude) (334)	876.3
Photographic and cinematographic supplies (882)(a)	315.9
Plastics in primary and non-primary forms (57,58)(a)	1,161.9
Printed matter (892)	640.3
Printing and bookbinding machinery, and parts thereof (726)	247.3
Pumps, centrifuges, filtering or purifying apparatus and parts thereof (743)	502.4
Rubber tyres, interchangeable tyre treads, tyre flaps and inner tubes for wheels of all kinds (625)	450.5
Ships, boats (including hovercraft) and floating structures (793)	311.8
Telecommunication equipment nes and parts nes and accessories (764)	905.3
Television and radio broadcast receivers (761,762)	436.1
Textile yarn (651)(a)	563.7
Tools for use in the hand or in machines (695)(a)	308.4
Tractors, track-laying and wheeled (722)	251.1
Wood, sawn or chipped lengthwise, sliced or peeled (248.20,40)	484.4
Woven cotton fabrics (excl. narrow or special fabrics) (652)	355.2
Woven fabrics of man-made textile material (excl. narrow or special fabrics) (653)	319.6
Total major commodities(a)	*30,996.8*
Total Imports*(b)*	**47,064.2**

(a) Excludes commodities subject to a No Commodity Details restriction. *See* Appendix E of the 1988–89 issue of the 5410.0 publication for details. *(b)* Total imports includes imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. *See* Appendix A of the 1988–89 issue of the 5410.0 publication for details.

EXPORTS BY INDUSTRY OF ORIGIN (a)
($ million)

ASIC Division / sub-division	*1986–87*	*1987–88(b)*	*1988–1989(b)*
Agriculture, forestry, fishing and hunting			
Agriculture *(c)*	6,141.4	7,196.6	7,942.1
Forestry and logging	3.8	4.3	5.4
Fishing and hunting	22.0	66.0	118.7
Total *(c)*	6,167.1	7,266.8	8,006.1
Mining			
Metallic minerals	2,904.5	3,468.3	4,243.9
Coal	5,430.9	4,774.4	4,647.4
Oil and gas	1,017.6	1,195.3	724.8
Construction materials	2.0	2.0	4.3
Other non-metallic minerals	119.8	141.4	129.5
Total	9,474.8	9,581.4	9,749.9
Manufacturing			
Food, beverages and tobacco	5,678.1	6,429.3	6,089.3
Textiles	1,303.1	1,561.2	1,344.4
Clothing and footwear	52.1	75.3	85.6
Wood, wood products and furniture	407.2	456.9	475.3
Paper, paper products, printing and publishing	199.9	213.8	260.1
Chemical, petroleum and coal products	1,421.5	1,837.8	1,967.9
Non-metallic mineral products	76.9	104.8	130.4
Basic metal products	6,045.3	7,842.4	9,109.1
Fabricated metal products	235.1	377.7	535.1
Transport equipment	1,238.6	1,168.3	1,041.1
Other machinery and equipment	1,901.7	2,203.7	2,218.0
Miscellaneous manufacturing	402.3	558.8	599.0
Total	18,961.8	22,829.8	23,855.2
Other industries			
Wholesale, retail and service industries	36.4	38.3	60.7
Confidential items; Waste and scrap nes; Second hand goods nes; Special goods	1,166.3	1,361.5	1,703.3
Total	*1,202.6*	*1,399.8*	*1,791.0*
Total Exports*(d)*	**35,806.4**	**41,077.8**	**43,462.2**

(a) Data through 1987–88 are compiled by allocating statistical items of the AECC to the appropriate ASIC industry code. For 1988–89 the data are compiled by allocating statistical items of the AHECC to the appropriate ASIC industry code. This change in the primary classification (commodity) may result in some minor breaks in series classified by ASIC between 1987–88 and 1988–89. *(b)* Includes exports of gold coins, whether or not they are legal tender, and other coins which are legal tender. *See* Appendix A of the 1988–89 issue of the 5410.0 publication for details. *(c)* From May 1987 includes exports of rice. Prior to that period rice was included with other confidential items. *(d)* Total exports excludes non-merchandise trade.

IMPORTS BY INDUSTRY OF ORIGIN (a)

ASIC Division / sub–division	*1986–87*	*1987–88(b)*	*1988–1989(b)*
Agriculture, forestry, fishing and hunting			
Agriculture	571.2	609.8	645.6
Forestry and logging	3.5	3.5	3.0
Fishing and hunting	5.6	11.4	19.8
Total	580.4	624.7	668.4
Mining			
Metallic minerals	24.2	37.2	47.3
Coal	.3	.7	8.1
Oil and gas	569.8	1,045.5	998.3
Construction materials	15.8	17.5	21.6
Other non-metallic minerals	204.9	228.2	260.8
Total	815.1	1,329.1	1,336.0
Manufacturing			
Food, beverages and tobacco	1,606.8	1,676.2	1,870.3
Textiles	1,877.4	2,117.8	2,301.1
Clothing and footwear	954.9	1,003.9	1,046.9
Wood, wood products and furniture	707.2	815.1	1,022.4
Paper, paper products, printing and publishing	1,746.5	2,015.5	2,179.2
Chemical, petroleum and coal products	4,275.1	4,857.8	5,612.3
Non-metallic mineral products	641.1	762.7	875.4
Basic metal products	1,046.0	1,238.0	1,684.0
Fabricated metal products	960.3	1,119.9	1,326.4
Transport equipment	4,689.1	4,754.3	7,204.5
Other machinery and equipment	12,744.7	13,633.0	15,569.1
Miscellaneous manufacturing	2,408.2	2,709.0	3,038.8
Total	33,657.4	36,703.3	43,730.4
Other industries			
Wholesale, retail and service industries	168.7	218.1	367.8
Confidential items; Waste and scrap nes; Second hand goods nes; Special goods	1,766.5	1,721.4	961.6
Total	*1,935.3*	*1,939.5*	*1,329.4*
Total Imports*(c)*	**36,988.1**	**40,596.6**	**47,064.2**

(a) Data through 1987–88 are compiled by allocating statistical items of the AICC to the appropriate ASIC industry code. For 1988–89 the data are compiled by allocating statistical items of the Australian Custom Tariff to the appropriate ASIC industry code. This change in the primary classification (commodity) may result in some minor breaks in series classified by ASIC between 1987–88 and 1988–89. *(b)* Includes imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. *See* Appendix A of the 1988–89 issue of the 5410.0 publication for details. *(c)* Total imports excludes non-merchandise trade.

EXPORTS BY BROAD ECONOMIC CATEGORIES (BEC)(a)

BEC	*1986–87*	*1987–88(b)*	*1988–89(b)*
Food and beverages *(c)*	7,725.9	7,996.7	8,335.9
Primary *(c)*	3,553.5	3,276.6	3,593.2
Mainly for industry	2,604.9	2,218.2	2,737.6
Mainly for household consumption *(c)*	948.6	1,058.4	855.6
Processed	4,172.4	4,720.1	4,742.7
Mainly for industry	966.6	977.1	1,240.5
Mainly for household consumption	3,205.8	3,743.0	3,502.2
Industrial supplies not elsewhere specified	15,944.1	20,852.2	23,577.9
Primary	8,233.8	10,644.7	11,399.7
Processed	7,710.3	10,207.5	12,178.2
Fuels and lubricants	7,293.9	7,017.6	6,350.3
Primary	6,214.3	5,720.1	5,209.6
Processed	1,079.6	1,297.6	1,140.7
Motor spirit	77.0	98.2	55.9
Other	1,002.6	1,199.4	1,084.8
Capital goods (except transport equipment), and parts and accessories thereof	1,696.5	1,791.8	1,770.3
Capital goods (except transport equipment)	1,071.3	1,039.2	936.6
Parts and accessories	625.2	752.6	833.8
Transport equipment and parts and accessories thereof	1,312.7	1,272.2	1,154.3
Passenger motor cars*(d)*	100.8	143.0	169.3
Other	467.0	244.3	264.3
Industrial	414.4	182.8	176.4
Non-industrial	52.6	61.5	87.8
Parts and accessories*(d)*	744.9	884.9	720.8
Consumer goods not elsewhere specified	836.4	959.5	989.0
Durable	256.8	248.8	276.8
Semi-durable	214.2	299.5	285.2
Non-durable	365.3	411.2	426.9
Goods not elsewhere specified*(e)*	997.0	1,187.7	1,284.5
Total Exports	**35,806.4**	**41,077.8**	**43,462.2**

(a) Data through 1987–88 are compiled by allocating statistical items of the AECC to the appropriate BEC code. For 1988–89 the data are compiled by allocating statistical items of the AHECC to the appropriate BEC code. This change in the primary classification (commodity) may result in some minor breaks in series classified by BEC between 1987–88 and 1988–89. *(b)* Includes exports of gold coins, whether or not they are legal tender, and other coins which are legal tender. See Appendix A of the 1988–89 issue of 5410.0 publication for details. *(c)* From May 1987 includes exports of rice. Prior to that period rice was included with other confidential items. *(d)* For periods prior to 1 January 1988 unassembled road motor vehicles are included with parts and accessories of transport equipment. From January 1 1988 they are included with passenger motor cars. *(e)* Includes commodities subject to a confidentiality restriction. *See* Appendices D and E of the 1988–89 issue of 5410.0 publication for details.

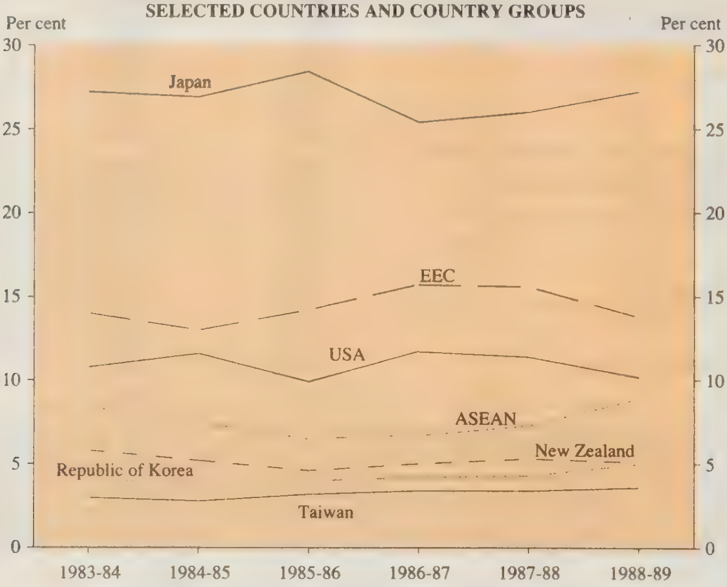
IMPORTS BY BROAD ECONOMIC CATEGORIES (BEC)(a)

BEC	*1986-87*	*1987-88(b)*	*1988-89(b)*
Food and beverages	1,749.2	1,911.3	2,181.2
Primary	477.6	548.3	650.1
Mainly for industry	163.9	247.7	317.1
Mainly for household consumption	313.6	300.6	332.9
Processed	1,271.6	1,363.0	1,531.2
Mainly for industry	195.0	204.6	189.5
Mainly for household consumption	1,076.6	1,158.4	1,341.7
Industrial supplies not elsewhere specified	10,061.7	11,836.9	13,605.8
Primary	585.9	659.9	709.2
Processed	9,475.8	11,177.0	12,896.6
Fuels and lubricants	1,637.1	1,940.1	1,906.4
Primary	566.0	1,043.2	1,005.8
Processed	1,071.1	896.8	900.5
Motor spirit	255.5	165.0	230.1
Other	815.5	731.9	670.5
Capital goods (except transport equipment), and parts and accessories thereof	10,594.8	11,370.3	13,004.9
Capital goods (except transport equipment)	7,270.7	7,728.3	8,890.9
Parts and accessories	3,324.2	3,642.1	4,114.0
Transport equipment and parts and accessories thereof	5,160.2	5,369.6	8,051.7
Passenger motor cars*(c)*	674.8	1,151.1	2,231.1
Other	1,814.6	1,495.7	3,056.0
Industrial	1,561.1	1,193.9	2,765.1
Non-industrial	253.5	301.8	290.9
Parts and accessories*(c)*	2,670.7	2,722.8	2,764.5
Consumer goods not elsewhere specified	6,013.5	6,459.1	7,233.1
Durable	1,990.3	2,132.4	2,503.7
Semi-durable	2,432.4	2,575.3	2,787.6
Non-durable	1,590.7	1,751.4	1,941.9
Goods not elsewhere specified*(d)*	1,771.6	1,709.3	1,081.1
Total Imports	**36,988.1**	**40,596.6**	**47,064.2**

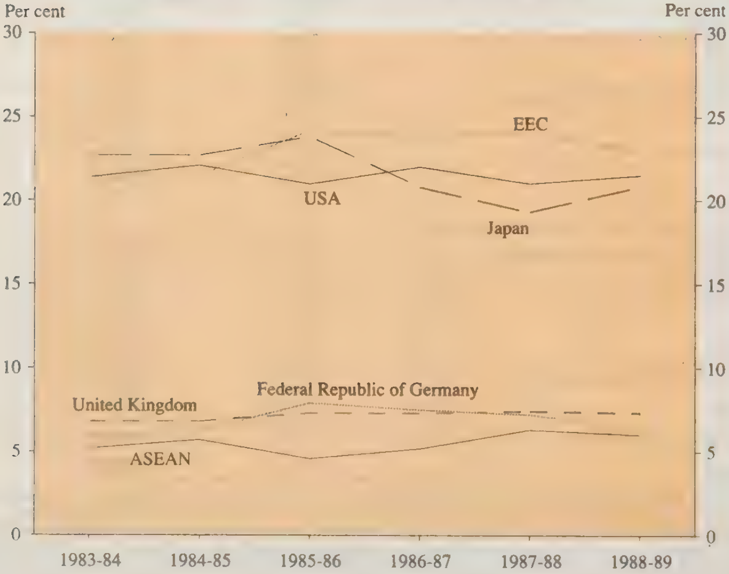
(a) Data through 1987–88 are compiled by allocating statistical items of the AICC to the appropriate BEC code. For 1988–89 the data are compiled by allocating statistical items of the Australian Customs Tariff to the appropriate BEC code. This change in the primary classification (commodity) may result in some minor breaks in series classified by BEC between 1987–88 and 1988–89. *(b)*Includes imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. See Appendix A of the 1988–89 issue of 5410.0 publication for details. *(c)* For periods prior to 1 January 1988 unassembled road motor vehicles are included with parts and accessories of transport equipment. From January 1 1988 they are included with passenger motor car. *(d)* Includes commodities subject to a confidentiality restriction. *See* Appendices D and E of the 1988–89 issue of 5410.0 publication for details

The following diagrams show the percentage of Australian exports and imports by selected countries and country groups from 1983–84 to 1988–89 and the value of Australia's foreign trade for 1978–79 to 1988–89.

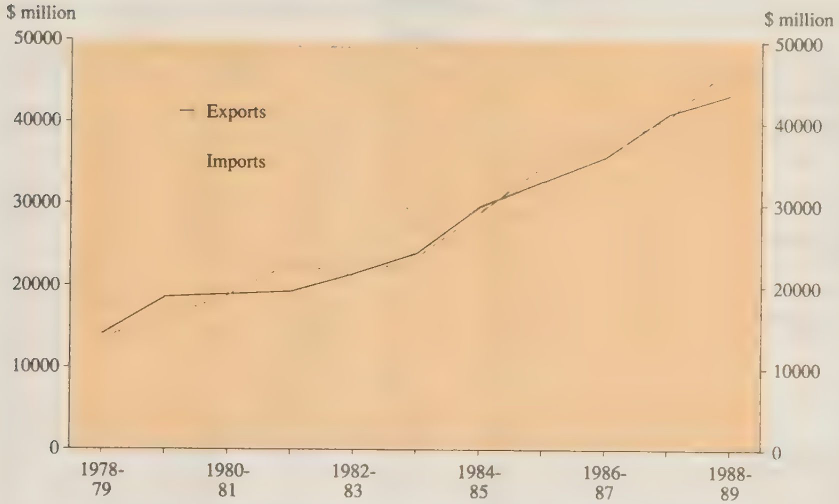
PERCENTAGE OF AUSTRALIAN EXPORTS GOING TO SELECTED COUNTRIES AND COUNTRY GROUPS



PERCENTAGE OF AUSTRALIAN IMPORTS COMING FROM SELECTED COUNTRIES AND COUNTRY GROUPS



EXPORTS AND IMPORTS, AUSTRALIA



Direction of foreign trade

Exports and imports, by country of consignment or of origin

The following table shows the value and percentage of Australian exports and imports according to principal country of consignment or origin. The proportions of Australian exports and imports by country of consignment or origin are shown on the preceding page.

AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF CONSIGNMENT OR ORIGIN
($ million)

	Exports			*Imports*		
Country	*1986–87*	*1987–88*	*1988–89(a)*	*1986–87*	*1987–88*	*1988–89(a)*
Association of South East Asian Nations (ASEAN)—						
Brunei	13.0	14.6	11.2	32.4	28.2	31.7
Indonesia	528.3	595.3	748.3	310.6	587.7	418.9
Malaysia	591.6	655.9	742.4	409.7	590.7	687.1
Philippines	259.0	257.5	410.7	113.4	127.0	165.4
Singapore	779.4	1,166.1	1,481.0	755.8	899.0	1,090.0
Thailand	223.8	316.8	474.8	284.4	331.1	420.0
Total ASEAN	*2,395.1*	*3,006.3*	*3,868.4*	*1,906.2*	*2,563.7*	*2,813.2*
European Economic Community (EEC)—						
Belgium—Luxembourg	297.7	368.3	366.7	312.0	319.9	403.2
Denmark	161.9	89.5	70.0	176.9	189.7	202.4
France	908.2	982.8	975.1	828.8	892.1	1,275.7
Germany, Federal Republic of	1,100.7	1,066.7	1,071.5	2,780.9	2,918.1	2,950.8
Greece	34.8	73.9	64.4	45.3	50.3	76.6
Ireland	6.0	7.2	7.9	184.2	201.6	171.5
Italy	823.2	1,093.0	1,017.5	1,110.3	1,329.8	1,375.1
Netherlands	598.4	626.7	660.6	486.6	595.9	601.0
Portugal	34.8	46.2	51.3	32.5	47.0	57.6
Spain	292.9	281.8	195.1	140.9	190.3	208.3
United Kingdom	1,374.5	1,771.6	1,522.5	2,705.7	3,012.2	3,453.8
Total EEC	*5,633.2*	*6,407.7*	*6,002.6*	*8,804.1*	*9,746.7*	*10,775.9*

AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF CONSIGNMENT OR ORIGIN—*continued*

($ million)

	Exports			*Imports*		
Country	*1986–87*	*1987–88*	*1988–89(a)*	*1986–87*	*1987–88*	*1988–89(a)*
Argentina	77.1	74.9	95.9	48.7	64.3	103.7
Austria	12.1	18.3	10.3	141.5	156.9	177.7
Bahrain	78.2	60.3	122.6	19.5	30.8	26.8
Bangladesh	41.5	50.3	70.2	17.7	22.9	22.7
Brazil	139.0	99.6	117.6	219.5	298.5	430.4
Canada	649.7	701.8	709.1	750.5	863.3	1,066.7
China	1,592.3	1,277.6	1,209.4	588.8	850.7	1,026.7
Czechoslovakia	34.4	68.3	74.9	28.9	41.1	52.2
Egypt*(b)*	362.5	316.7	423.2	0.2	2.2	2.8
Fiji	174.2	123.9	155.4	27.8	43.8	98.7
Finland	49.7	79.2	97.6	262.6	293.5	352.2
French Polynesia	69.2	72.9	67.9	0.3	0.4	0.4
Hong Kong	1,086.6	1,977.1	1,888.5	800.1	845.3	891.5
India	425.3	505.2	555.2	203.3	228.2	246.7
Iran	343.8	375.7	305.0	4.4	17.1	9.8
Iraq	194.8	178.4	311.0	0.3	0.2	0.2
Israel	70.3	61.2	61.9	86.5	123.4	138.3
Japan	9,083.3	10,684.1	11,840.5	7,709.7	7,816.5	9,766.5
Korea, Republic of	1,503.8	1,782.4	2,182.7	891.3	1,020.3	1,262.0
Kuwait	98.0	81.1	77.7	162.6	121.0	89.7
Mexico	41.6	54.4	53.3	55.3	64.9	80.5
Nauru	14.2	14.3	17.1	59.2	66.7	84.7
New Caledonia	55.1	85.1	76.5	1.9	3.9	1.7
New Zealand	1,777.0	2,181.5	2,219.2	1,431.2	1,732.5	1,970.5
Norway*(b)*	24.0	29.5	18.1	97.1	168.1	176.8
Oman	43.7	58.8	57.5	17.6	9.7	14.6
Pakistan	100.6	101.4	144.0	61.0	64.6	79.1
Papua New Guinea	651.1	741.3	785.2	189.7	109.1	104.7
Poland	107.4	199.5	182.7	21.2	27.4	30.7
Puerto Rico	0.9	1.4	6.0	69.4	98.6	114.1
Qatar	24.7	30.8	21.3	70.4	88.0	47.8
Romania	114.8	123.4	100.3	13.0	23.2	52.5
Saudi Arabia	298.0	268.1	249.6	437.3	418.9	458.3
South Africa	154.1	151.4	152.0	154.7	99.1	97.9
Sweden	120.8	120.6	142.7	655.4	776.6	840.4
Switzerland	365.1	307.7	348.7	489.9	543.8	496.3
Taiwan	1,228.9	1,386.5	1,566.5	1,517.4	1,743.9	1,919.9
Turkey	116.7	191.1	79.9	19.9	32.7	32.2
United Arab Emirates	222.1	236.3	253.7	175.8	215.8	396.3
United States of America	4,190.4	4,672.0	4,422.4	8,118.5	8,532.0	10,129.4
U.S.S.R.	687.7	630.3	1,012.9	15.1	21.7	53.8
Yemen Arab Republic	65.1	61.3	29.3	—	—	—
Yemen, People's Democratic Republic of	30.4	45.6	39.5	—	—	8.7
Yugoslavia	110.2	91.2	130.2	38.1	49.7	56.8
Zimbabwe	4.8	7.6	6.8	294.1	179.7	8.6
Destination or Origin Unknown	—	0.5	1.2	11.4	9.0	18.8
Ships' Stores	407.6	465.4	426.3	—	—	—
Egypt, Iceland and Norway—alumina	121.2	148.9	132.6	—	—	—
Other countries	626.7	668.9	538.1	800.0	468.8	355.4
Re-imports	—	—	—	27.1	30.7	78.8
Total	**35,806.4**	**41,077.8**	**43,462.2**	**36,988.1**	**40,596.6**	**47,064.2**

(a) Includes, from 1 July 1987, exports or imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise. *(b)* Excludes exports of alumina. Alumina exports for Egypt, Iceland and Norway are included in 'Other countries'. *(c)* Portugal and Spain became members of the EEC on 1 January 1986.

Foreign trade by State

The following table shows the value of exports and imports for each State and Territory.

EXPORTS AND IMPORTS BY STATE
($ million)

	Exports			Imports		
State (a)	*1986-87*	*1987-88(b)*	*1988-89(b)*	*1986-87*	*1987-88(b)*	*1988-89(b)*
New South Wales	8,364.2	10,597.8	10,903.7	16,055.9	18,089.6	20,875.1
Victoria	7,389.6	9,044.6	8,526.2	13,741.6	14,020.0	15,958.1
Queensland	7,761.9	8,072.4	8,976.3	2,503.5	2,845.2	3,788.4
South Australia	2,044.2	2,271.6	2,446.8	1,503.4	1,804.8	1,861.4
Western Australia	6,673.7	7,434.9	8,856.6	2,586.8	3,152.5	3,581.8
Tasmania	1,088.9	1,223.5	1,356.6	289.4	282.4	348.6
Northern Territory	750.6	905.4	938.8	265.8	385.2	625.9
Australian Capital Territory	0.9	2.4	3.5	41.7	16.8	24.8
State not available	121.2	148.9	132.6	n.a.	n.a.	n.a.
Re-exports	1,611.2	1,376.5	1,321.1	n.a.	n.a.	n.a.
Total *(c)*	**35,806.4**	**41,077.8**	**43,462.2**	**36,988.1**	**40,596.6**	**47,064.2**

(a) For imports: State in which entry was lodged. The State of lodgement is not necessarily the State in which the goods were discharged or consumed. For exports: State is State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. *(b)* Includes, from 1 July 1987, exports or imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. *See* Appendix A of the 1988–89 issue of 5426.0 publication for further detail. *(c)* Total excludes non-merchandise trade.

Import clearances, dutiable clearances, and customs duties collected

The following table shows the value of total import clearances, total dutiable clearances, and the customs duties collected, together with the ratio of total dutiable clearances to total clearances.

TOTAL IMPORT CLEARANCES, DUTIABLE CLEARANCES, AND DUTIES(a)

		1986–87	*1987–88*	*1988–89*
Total import clearances	$m	38,025.1	41,782.5	47,893.5
Total dutiable clearances	$m	23,732.4	26,178.7	16,524.8
Total customs duties collected	$m	3,292.3	3,710.3	3,879.4
Ratio of dutiable clearances to total clearance	per cent	62.4	62.7	34.5
Ratio of duties collected to dutiable clearances	per cent	13.9	14.2	23.4

(a) Includes, from 1 July 1987, import clearances of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise.

Excise

As the Excise Acts are administered by the ACS, it is convenient to publish here the quantities of Australian produce on which excise duty has been paid. The rate of excise duty is in some cases related to the import duty on similar goods. Moreover, particulars of customs and excise revenue are shown in Chapter 24, Public Finance. The following table shows the quantities of goods on which excise duty was paid in Australia.

QUANTITIES OF PRINCIPAL EXCISABLE GOODS ON WHICH EXCISE DUTY WAS PAID: AUSTRALIA

Article		*1986–87*	*1987–88*	*1988–89*
Beer	'000 litre	1,784,477	1,808,529	1,876,699
Spirits—				
Brandy	'000 l'al	1,781	1,779	1,681
Gin	"	232	269	271
Whisky	"	129	94	103
Rum	"	2,303	2,274	2,339
Liqueurs	"	150	133	138
Vodka	"	478	517	511
Flavoured spirituous liqueurs	"	12	9	7
Other	"	414	573	805
Total spirits (potable)	"	*5,776*	*5,960*	*6,168*
Tobacco	'000 kg	969	870	784
Cigars	"	1	—	—
Cigarettes—machine-made	"	25,801	26,055	25,633
Petrol—				
Aviation gasoline—for use in aircraft *(a)*	litre	114,741	119,733	121,880
Aviation gasoline—other *(a)*	"	—	—	—
Gasoline—commercial motor spirit/ethanol blends	"	—	—	—
Other gasoline *(a)*	"	16,100,824	16,449,904	16,948,695
Aviation turbine kerosene *(a)*	"	1,373,287	1,413,455	26,966
Diesel fuel; kerosene, n.s.a.; heating and fuel oil *(b)*		9,974,131	9,990,131	10,568,652
Crude petroleum oil, liquid petroleum and liquefied petroleum gas	'000 litre	33,232,431	23,082,609	19,021,103
Coal	'000 tonnes	140,866	141,856	138,846

(a) Includes supplies to Commonwealth Government on which excise was paid. *(b)* Includes automotive, industrial and marine diesel fuel.

FOREIGN INVESTMENT

Foreign investment statistics provide information on the *level* (stock) of Australia's foreign financial assets and liabilities at a given point in time, *capital transactions* (investment flows) which increase and decrease these assets and liabilities, *other changes* in the value of these assets and liabilities, and *income* receivable and payable on these assets and liabilities.

These statistics form an integral part of Australia's balance of payments as well as being useful in their own right in determining, for example, the impact of foreign investment policies and the level of Australia's foreign assets and liabilities, including foreign debt. They are also useful when analysing the behaviour of financial markets. The statistics are collected from surveys of foreign investment which have been conducted since 1947–48.

Classification

The primary classification used in foreign investment statistics is the direction of investment. This classification refers to the basic distinction between inward and outward investment; that is, foreign investment in Australia or Australian investment abroad. Broadly, *foreign investment in Australia* refers to the stock of financial assets in Australia owned by foreign residents and capital transactions which increase or decrease this stock. Conversely, *Australian investment abroad* refers to the stock of financial assets abroad owned by Australian residents and capital transactions which increase or decrease this stock.

Foreign investment is undertaken by means of instruments of investment. Many types of instrument of investment can be identified, but for analytical reasons and ease of reporting similar instruments are combined.

- Equity includes ordinary and preference shares, units in trusts and net equity in branches.
- Borrowing (foreign investment in Australia) or lending (Australian investment abroad) comprises deposits, loans, finance leases, bonds, bills, IMF credit and Bank of International Settlements placements.
- Reserve Assets includes monetary gold, Special Drawing Rights and reserve position in the IMF and foreign exchange held by the Reserve Bank of Australia.
- Other investments consists of amounts outstanding in respect of goods, services, interest, dividends etc.
- Reinvestment of earnings of direct investors refers to income retained from after tax profits attributable to direct investors.

Statistics are provided in respect of both Australia's gross foreign debt (borrowing) and Australia's net foreign debt, the latter being derived by deducting reserve assets and lending abroad from gross foreign debt.

The country dissection of statistics on foreign investment shows the countries investing in Australia or receiving investment from Australia. The classification is based upon the country of residence of the foreign creditor or debtor holding Australia's financial liabilities or financial assets. It does not necessarily reflect either the country of ultimate beneficial ownership of the investment, the country of immediate source of funds or the country to which amounts borrowed will in fact be repaid.

The industry classification used in foreign investment statistics is based upon the Australian Standard Industrial Classification (ASIC), 1983 edition. For both foreign investment in Australia and Australian investment abroad, investment is classified by the industry of the enterprise group receiving that investment. Industry statistics should be treated with some caution as they do not necessarily reflect the industry in which the funds are ultimately employed.

Coverage

As there is no comprehensive source for identifying enterprises engaged in foreign investment activity, lists of enterprises included in foreign investment surveys are compiled from a variety of sources. These sources include stock exchange reports, company reports, newspapers and the financial press, business directories, tax declaration forms submitted under the Banking (Foreign Exchange) Regulations, information provided on a confidential basis of proposals approved by the Foreign Investment Review Board and records of the Commissioner of Corporate Affairs in some States.

Valuation and timing

Market price is the principle method of valuation in foreign investment statistics. Capital transactions are recorded on a change of ownership basis, that is, at the time when the foreign financial assets or liability is acquired, sold, repaid or otherwise disposed of. By convention, this is taken to be the time at which the event is recorded in the books of the transactors. Investment income is generally recorded at the time it becomes due for payment.

Foreign investment statistics

The table below shows a reconciliation between opening and closing levels of foreign investment in Australia, Australian investment abroad and Australia's net international investment position. The table also shows income payable on foreign investment in Australia, income receivable on Australian investment abroad and net income payable.

FOREIGN INVESTMENT SUMMARY TABLE
($A million)

		Changes in levels of investment during the year						
Year	*Levels of investment at beginning of year*	*Reinvestment of earnings of direct investors*	*Other transactions*	*Exchange rate variations*	*Other changes*	*Total*	*Levels of investment at end of year*	*Investment income (a)*
			FOREIGN INVESTMENT IN AUSTRALIA					
Equity—								
1986–87	40,503	1,244	5,874	14	15,823	22,955	63,458	2,971
1987–88	63,458	2,428	3,612	–46	–2,909	3,087	66,545	4,356
1988–89	66,545	2,604	6,485	–37	2,599	11,653	78,198	5,721
Borrowing—								
1986–87	92,050	..	14,288	–1,643	211	12,856	104,906	8,260
1987–88	104,906	..	16,883	–4,765	–5	12,113	117,019	9,129
1988–89	117,019	..	16,664	1,117	2,247	20,027	137,046	10,736
Other Investment—*(b)*								
1986–87	6,884	..	–107	11	651	555	7,439	113
1987–88	7,439	..	45	–37	–7	1	7,440	41
1988–89	7,440	..	355	–27	–111	216	7,656	231
Total—(b)								
1986–87	139,437	1,244	20,055	–1,617	16,684	36,366	175,803	11,343
1987–88	175,803	2,428	20,539	–4,845	–2,920	15,201	191,004	13,525
1988–89	191,004	2,604	23,505	1,053	4,735	31,896	222,899	16,686
			AUSTRALIAN INVESTMENT ABROAD					
Equity—								
1986–87	20,253	1,176	6,624	–225	4,293	11,868	32,121	1,815
1987–88	32,121	1,807	6,554	–180	–3,666	4,515	36,636	2,119
1988–89	36,636	2,196	5,021	–482	464	7,200	43,836	2,498
Reserve Assets—								
1986–87	13,024	..	3,394	239	937	4,570	17,594	531
1987–88	17,594	..	3,924	–893	–442	2,588	20,182	706
1988–89	20,182	..	873	3	–648	228	20,410	998
Lending—								
1986–87	3,981	..	381	–190	691	882	4,863	114
1987–88	4,863	..	2,165	3	–483	1,685	6,548	287
1988–89	6,548	..	1,409	–139	573	1,843	8,391	224
Other Investment—*(b)*								
1986–87	6,024	..	799	17	12	828	6,852	169
1987–88	6,852	..	–59	–52	–239	–350	6,502	93
1988–89	6,502	..	1,016	26	8	1,050	7,552	182
Total—(b)								
1986–87	43,283	1,176	11,198	–158	5,931	18,147	61,430	2,628
1987–88	61,430	1,807	12,586	–1,122	–4,833	8,438	69,868	3,205
1988–89	69,868	2,196	8,317	–592	399	10,321	80,189	3,902
			NET INTERNATIONAL INVESTMENT POSITION AND INCOME (d)					
Net equities—								
1986–87	20,250	68	–750	239	11,530	11,087	31,337	1,156
1987–88	31,337	621	–2,942	134	757	–1,428	29,909	2,237
1988–89	29,909	408	1,464	445	2,135	4,453	34,362	3,223
Net Foreign Debt—*(e)*								
1986–87	75,045	..	10,513	–1,692	–1,417	7,404	82,449	7,615
1987–88	82,449	..	10,794	–3,875	921	7,840	90,289	8,136
1988–89	90,289	..	14,382	1,253	2,322	17,956	108,244	9,513
Net Other Investment—								
1986–87	860	..	–906	–6	639	–273	587	–56
1987–88	587	..	104	15	232	351	938	–52
1988–89	938	..	–661	–53	–119	–834	104	49
Net International Investment Position—								
1986–87	96,154	68	8,857	–1,459	10,753	18,219	114,373	8,715
1987–88	114,373	621	7,953	–3,723	1,913	6,763	121,136	10,320
1988–89	121,136	408	15,188	1,645	4,336	21,575	142,710	12,784

(a) Includes reinvestment of earnings of direct investors. Investment income is calculated before the deduction of withholding tax. *(b)* Prior to 1988–89 details of exchange rate variations for accounts payable/prepayments received (foreign investment in Australia) and accounts receivable/prepayments made (Australian investment abroad), components of 'other investment', are not available and have been included in 'other changes'. *(c)* As a result of a change in the data source for accounts payable/prepayments received (foreign investment in Australia) and accounts receivable/prepayments made (Australian investment abroad), components of 'other investment', levels at 30 June 1988 are not strictly comparable with levels of data shown for earlier periods. The changed data source accounts for decreases of $409 million and $656 million in the 1987–88 'other changes' for foreign investment in Australia and the Australian Investment abroad respectively. *(d)* Net international investment position equals foreign investment in Australia less Australian investment abroad. *(e)* Foreign borrowing by Australian residents less the sum of reserve assets and Australian lending abroad.

The following table provides details on Australia's foreign debt, including foreign borrowing, reserve assets and lending abroad and net foreign debt.

LEVELS OF FOREIGN DEBT
($A million)

	At 30 June—					
	1984	*1985*	*1986*	*1987*	*1988*	*1989*
FOREIGN BORROWING (GROSS DEBT)						
Official—						
Commonwealth Government and Reserve Bank	8,534	12,982	19,553	23,173	22,286	17,763
State government	339	1,901	3,855	6,684	10,475	15,965
Total official	*8,874*	*14,883*	*23,409*	*29,857*	*32,761*	*33,728*
Non-official—						
Financial enterprises—						
Public sector	1,197	2,530	5,505	6,557	10,453	16,226
Private sector	5,073	9,034	14,972	19,802	22,803	29,516
Total	*6,270*	*11,564*	*20,477*	*26,359*	*33,256*	*45,742*
Trading enterprises—						
Public sector	7,711	12,452	13,504	12,327	12,323	11,860
Private sector	21,247	28,574	34,661	36,363	38,679	45,716
Total	*28,957*	*41,026*	*48,165*	*48,690*	*51,002*	*57,576*
Total non-official	*35,227*	*52,590*	*68,641*	*75,049*	*84,258*	*103,318*
Total	**44,101**	**67,473**	**92,050**	**104,906**	**117,019**	**137,046**
AUSTRALIAN LENDING ABROAD AND RESERVE ASSETS						
Official—						
Reserve assets *(a)*	12,417	13,517	13,024	17,594	20,182	20,410
Lending	3	106	137	364	649	924
Total official	*12,420*	*13,623*	*13,161*	*17,958*	*20,831*	*21,334*
Non-official—						
Financial enterprises	576	1,190	2,838	2,854	4,094	6,889
Trading enterprises	1,212	1,451	1,006	1,645	1,805	578
Total non-official	*1,788*	*2,642*	*3,845*	*4,499*	*5,899*	*7,467*
Total	**14,208**	**16,265**	**17,005**	**22,457**	**26,730**	**28,801**
NET FOREIGN DEBT *(b)*						
Official—	*-3,546*	*1,260*	*10,248*	*11,899*	*11,929*	*12,394*
Non-official—						
Financial enterprises	5,694	10,374	17,639	23,505	29,162	38,853
Trading enterprises	27,746	39,575	47,158	47,045	49,197	56,997
Total non-official	*33,440*	*49,948*	*64,797*	*70,550*	*78,360*	*95,850*
Total	**29,893**	**51,208**	**75,045**	**82,449**	**90,289**	**108,244**

(a) From 30 June 1985, figures for official reserve assets are not fully comparable with earlier data due to changes in the Reserve Bank's accounting procedures. *(b)* Foreign borrowing by Australian residents less the sum of Australian lending abroad and reserve assets.

The following tables provide details of foreign investment in Australia and Australian investment abroad classified by country and foreign investment in Australia classified by industry of investment. This information is provided in respect of capital transactions, investment income and levels.

FOREIGN INVESTMENT IN AUSTRALIA, BY COUNTRY
($A million)

Country of investor	*Year—* *1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
		CAPITAL TRANSACTIONS *(a)*				
OECD—						
USA	1,411	3,564	4,304	4,469	433	3,149
Japan	1,500	3,454	2,673	761	5,256	6,862
Switzerland	134	399	544	334	650	53
EEC—						
UK	2,529	2,287	1,932	3,561	6,721	–468
Other *(b)*	656	1,290	3,051	1,768	725	614
Total	*3,185*	*3,577*	*4,983*	*5,330*	*7,446*	*147*
Other OECD *(b)*	242	402	871	1,821	1,371	475
Total OECD	*6,473*	*11,397*	*13,374*	*12,713*	*15,157*	*10,685*
ASEAN *(c)*	2,148	592	–837	1,003	69	–1,047
Other countries *(c)*	586	71	–760	1,168	1,676	1,873
International capital markets	953	2,321	6,806	6,791	5,125	7,600
International institutions	–137	–55	14	–24	–94	–195
Unallocated *(a)*	145	462	548	–354	1,034	7,195
Total	**10,167**	**14,788**	**19,144**	**21,298**	**22,967**	**26,109**
		INVESTMENT INCOME (d)				
OECD—						
USA	1,707	2,037	2,486	3,077	3,755	2,749
Japan	799	1,224	1,646	1,805	1,851	2,150
Switzerland	175	213	275	401	403	368
EEC—						
UK	1,504	1,833	2,049	2,301	2,405	2,409
Other *(b)*	452	524	784	1,152	1,447	1,098
Total	*1,956*	*2,357*	*2,833*	*3,453*	*3,853*	*3,509*
Other OECD *(b)*	192	212	327	321	371	95
Total OECD	*4,829*	*6,041*	*7,567*	*9,057*	*10,233*	*8,868*
ASEAN *(c)*	*470*	*739*	*694*	*613*	*481*	*606*
Other countries *(c)*	327	440	393	336	336	881
International capital markets	38	124	555	934	1,516	2,418
International institutions	40	32	24	22	22	35
Unallocated *(d)*	130	187	256	381	936	3878
Total	**5,833**	**7,563**	**9,489**	**11,343**	**13,525**	**16,686**
		LEVELS OF FOREIGN INVESTMENT				
OECD—						
USA	20,320	26,819	31,903	40,845	39,234	n.y.a.
Japan	10,802	16,200	20,840	21,321	26,515	n.y.a.
Switzerland	3,114	4,050	5,856	7,502	7,439	n.y.a.
EEC—						
UK	20,631	26,138	29,318	37,127	44,019	n.y.a.
Other *(b)*	8,054	10,441	14,443	17,842	18,461	n.y.a.
Total	*28,685*	*36,579*	*43,761*	*54,968*	*62,479*	*n.y.a.*
Other OECD *(b)*	2,844	3,801	4,541	8,888	8,200	n.y.a.
Total OECD	*65,764*	*87,449*	*106,901*	*133,523*	*143,867*	*n.y.a.*
ASEAN *(c)*	7,214	9,695	8,951	10,477	8,175	n.y.a.
Other countries *(c)*	5,062	6,840	5,803	6,862	7,737	n.y.a.
International capital markets	1,425	4,466	13,306	20,801	25,428	n.y.a.
International institutions	390	341	365	332	239	n.y.a.
Unallocated	2,017	2,527	4,111	3,808	5,534	n.y.a.
Total	**81,873**	**111,318**	**139,437**	**175,803**	**190,980**	**222,899**

(a) For 1988–89, 'Reinvestment of earnings' is not classified by country and is therefore included in 'Unallocated'. *(b)* Until 1985–86, Spain and Portugal are included in 'Other OECD', from 1985–86 they are included in 'Other EEC'. *(c)* Until 1983–84, Brunei is included in 'Other countries', from 1983–84 it is included in 'ASEAN'. *(d)* For 1988–89, 'Reinvested earnings' is not classified by country and is therefore included in 'Unallocated'.

AUSTRALIAN INVESTMENT ABROAD, BY COUNTRY
($A million)

Country of investment	Year— 1983–84	1984–85	1985–86	1986–87	1987–88	1988–89
CAPITAL TRANSACTIONS						
OECD—						
USA	2,186	–307	1,294	7,626	1,648	n.y.a.
New Zealand	163	231	2	1,604	1,061	n.y.a.
UK	225	717	788	1,142	4,731	n.y.a.
Other OECD *(a)*	968	1,521	1,000	1,402	2,142	n.y.a.
Total OECD	*3,543*	*2,161*	*3,084*	*11,774*	*9,582*	n.y.a.
ASEAN *(a)*	285	319	111	75	2	n.y.a.
Papua New Guinea	230	94	–107	13	n.p.	n.y.a.
Other countries *(b)*	231	351	2,230	594	2,560	n.y.a.
Unallocated	157	231	–456	–81	n.p.	n.y.a.
Total	**4,446**	**3,156**	**4,862**	**12,375**	**14,393**	**10,514**
INVESTMENT INCOME						
OECD—						
USA	643	698	405	517	654	n.y.a.
New Zealand	154	173	262	344	47	n.y.a.
UK	122	96	277	330	672	n.y.a.
Other OECD *(a)*	119	270	396	437	634	n.y.a.
Total OECD	*1,037*	*1,237*	*1,340*	*1,628*	*2,007*	n.y.a.
ASEAN *(b)*	150	101	154	121	82	n.y.a.
Papua New Guinea	108	53	141	61	3	n.y.a.
Other countries *(b)*	118	80	212	600	1,043	n.y.a.
Unallocated	55	54	118	219	70	n.y.a.
Total	**1,468**	**1,525**	**1,966**	**2,628**	**3,205**	**3,902**
LEVELS OF AUSTRALIAN INVESTMENT						
OECD—						
USA	10,195	11,906	13,081	20,880	19,303	n.y.a.
New Zealand	928	927	1,599	3,785	4,957	n.y.a.
UK	1,465	2,511	3,652	7,531	12,288	n.y.a.
Other OECD *(a)*	3,939	6,399	9,848	12,656	14,118	n.y.a.
Total OECD	*16,528*	*21,744*	*28,180*	*44,852*	*50,665*	n.y.a.
ASEAN *(b)*	1,676	1,582	1,357	1,413	1,079	n.y.a.
Papua New Guinea	1,016	994	856	1,437	1,803	n.y.a.
Other countries *(b)*	3,059	3,977	7,038	7,222	9,262	n.y.a.
Reserve Bank gold *(c)*	3,478	3,772	4,014	4,951	4,509	n.y.a.
Unallocated	949	1,691	1,838	1,555	2,549	n.y.a.
Total	**26,706**	**33,760**	**43,283**	**61,430**	**69,868**	**80,189**

(a) The foreign exchange part of reserve assets, with the exception of those held in the USA, are not available by country and are therefore included in 'Other OECD'. *(b)* Until 1983–84 Brunei is included in 'Other countries', from 1983–84 it is included in 'ASEAN'. *(c)* Gold held by the Reserve Bank as part of reserve assets which cannot be allocated by country.

FOREIGN INVESTMENT IN AUSTRALIA, BY INDUSTRY (a)
($A million)

		Year—					
	Industry of investment (ASIC division)	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
	CAPITAL TRANSACTIONS *(b)*						
A	Agriculture, forestry, fishing and hunting	5	3	41	438	–122	n.a.
B	Mining	237	519	–1,020	1,138	1,362	879
C	Manufacturing	1,948	901	2,946	3,196	4,557	2,634
D	Electricity, gas and water	652	745	314	–995	–150	–1,616
E	Construction	57	62	–59	358	–55	n.a.
F	Wholesale and retail trade	1,510	1,898	1,010	1,270	1,396	1,274
G	Transport and storage	327	402	392	258	57	1,616
I	Finance, property and business services *(c)*	3,596	6,973	11,130	11,776	15,538	18,470
J	Public administration, and defence *(d)*	971	2,629	3,961	3,244	–127	n.a.
H, K, L	Other industries *(e)*	310	294	235	202	466	–1,997
M	Unallocated *(b)(f)*	555	362	196	414	45	4,850
	Total all industries	**10,167**	**14,788**	**19,144**	**21,298**	**22,967**	**26,109**
	INVESTMENT INCOME						
A	Agriculture, forestry, fishing and hunting	3	2	24	5	9	n.y.a.
B	Mining	974	1,083	1,827	1,250	1,274	n.y.a.
C	Manufacturing	1,295	1,623	1,770	1,783	2,837	n.y.a.
D	Electricity, gas and water	306	424	492	530	452	n.y.a.
E	Construction	38	31	69	58	121	n.y.a.
F	Wholesale and retail trade	626	688	468	940	1,130	n.y.a.
G	Transport and storage	258	262	370	381	408	n.y.a.
I	Finance, property and business services *(c)*	1,329	1,882	1,819	2,707	3,709	n.y.a.
J	Public administration, and defence *(d)*	668	927	1,507	2,224	2,580	n.y.a.
H, K, L	Other industries *(e)*	39	74	76	50	106	n.y.a.
M	Unallocated *(b) (f)*	297	567	1,067	1,415	899	n.y.a.
	Total all industries	**5,833**	**7,563**	**9,489**	**11,343**	**13,525**	**16,686**
	LEVELS OF FOREIGN INVESTMENT						
A	Agriculture, forestry, fishing and hunting	528	591	558	950	555	n.y.a.
B	Mining	15,264	19,462	17,949	28,828	24,769	n.y.a.
C	Manufacturing	18,440	22,121	27,641	34,702	39,518	n.y.a.
D	Electricity, gas and water	5,112	7,534	8,400	7,353	7,123	n.y.a.
E	Construction	849	1,200	1,100	1,688	1,658	n.y.a.
F	Wholesale and retail trade	11,258	14,378	15,104	16,643	19,362	n.y.a.
G	Transport and storage	3,020	4,267	5,286	5,894	5,665	n.y.a.
I	Finance, property and business services *(c)*	15,004	23,776	36,495	50,058	63,894	n.y.a.
J	Public administration, and defence *(d)*	8,861	13,273	19,930	23,508	22,507	n.y.a.
H, K, L	Other industries *(e)*	1,088	1,651	1,846	1,804	2,244	n.y.a.
M	Unallocated *(b)(f)*	2,449	3,065	5,126	4,375	3,685	n.y.a.
	Total all industries	**81,873**	**111,318**	**139,437**	**175,803**	**190,980**	**222,899**

(a) The industry categories shown are based on the 1983 edition of ASIC and relate to the predominant activity of the enterprise group receiving the investment funds. This is not necessarily the industry of the end use of the funds. *(b)* For 1988–89, 'Reinvestment of earnings' is not classified by industry and is therefore included in 'Unallocated'. *(c)* Includes the Reserve Bank and the State Government component of General Government. *(d)* Includes the Commonwealth Government component of General Government. *(e)* Consists of: Division H—Communications, Division K—Community services, and Division L—Recreation, personal and other services. *(f)* Details of accounts payable/prepayments received are not classified by industry and are therefore included in 'Unallocated'.

BALANCE OF PAYMENTS

The Australian balance of payments is a statistical statement designed to provide a systematic record of Australia's economic transaction with the rest of the world. It may be described as a system of consolidated accounts in which the accounting entity is the Australian economy and the entries mostly refer to economic transactions between residents of Australia and residents of the rest of the world (non-residents). Such a record is essential for the examination of influences which external factors have on the domestic economy. Balance of payments estimates have always assumed a particular importance in Australia due to the importance of these influences on the Australian economy.

Official estimates of Australia's balance of payments for the period 1928–29 were included in *Year Book* No. 24. Except for the War years 1939 to 1945, estimates have since been published at least annually.

Detailed estimates and brief descriptions of the various items included are provided in the annual publication *Balance of Payments, Australia* (5303.0) with supplementary regional data available on request. More timely estimates are provided in the quarterly publication *Balance of Payments, Australia* (5302.0) approximately eight weeks after the end of each quarter, with corresponding historical data available on request. A monthly publication *Balance of Payments, Australia* (5301.0), showing preliminary estimates in less detail, is published about twelve working days after the end of each month. The publication *Balance of Payments, Australia: Concepts, Sources and Methods* (5331.0) provides a comprehensive description of the concepts and structure of the Australian balance of payments and of the data sources and methods used to compile the statistics contained in the above publications.

Balance of payments statements cover a wide range of economic transactions which may be broadly divided into three categories. The first category comprises transactions in goods, services and income between residents of Australia and non-residents. The second category relates to financial transactions involving claims on and liabilities to the rest of the world. Because the statement is constructed on a double entry recording basis, a third category described as unrequited transfers is required to provide offsetting entries for one sided balance of payments transactions, such as gifts in cash and kind which have no 'quid pro quo'. Two changes not arising from transactions—specifically changes in Australia's official reserve assets arising from the allocation (or cancellation) of Special Drawing Rights (SDRs) by the International Monetary Fund (IMF) and the monetisation (or demonetisation) of gold—are included by convention, to make the accounts more analytically useful.

Traditionally, the first and third of the above categories are combined in what is described as the current account and the second category, together with the two changes not arising from transactions, are shown separately in what is described as the capital account.

The double entry system is used for recording balance of payments transactions. Under the internationally accepted conventions of the double entry system, credit entries, which have no arithmetic sign, are used to record exports of goods and services, income receivable and financial transactions involving either a reduction in the country's foreign financial assets or an increase in its foreign liabilities. Conversely, debit entries, identified by a minus sign (–), are used to record imports of goods and services, income payable and financial transactions involving either an increase in foreign financial assets or a decrease in foreign liabilities. Transactions in a double entry accounting system are reflected in pairs of equal credit and debit entries. For example, an export transaction for which payment is received through the banking system involves a credit entry for the export and a debit entry for the increase in foreign exchange assets. Similarly, the repayment of a foreign loan through the banking system involves a debit entry for a reduction in foreign liabilities and a credit entry for the decrease in foreign exchange assets. Any entries that are not automatically paired are matched by special offsetting entries. Such offsetting entries are required for the category of unrequited transfers and for the other changes not arising from transactions referred to in the previous paragraph, namely the allocation (or cancellation) of SDRs and the monetisation (or demonetisation) of gold.

It follows that, in principle, the net sum of all credit and debit entries is zero. In practice, some transactions are not measured accurately (errors), while others are not measured at all (omissions). Equality between the sum of the credit and debit entries is brought about by the inclusion of a balancing item which reflects net errors and omissions. The balancing item is shown separately outside both current and capital accounts since it reflects the net effects of errors and omissions in both accounts.

In principle, transactions and other changes should be valued in the balance of payments at market prices. However, in practice, transactions are generally valued in the statistics at transaction prices because this basis provides the closest practical approximation to the market price principle. The transactions price is the price at which a transaction is recorded in the accounts of the transactors.

Transactions and other changes recorded in the balance of payments should, in principle, be recorded at the time of change of ownership (either actual or imputed). For the current account transactions, this is conceived as the time when ownership of goods changes, when services are rendered, when reinvested earnings attributable to direct investors are earned, and when interest and dividends become due for payment. In the case of unrequited transfers, those which are imposed by one party on another, such as taxes and fines, should ideally be recorded at the time they become due for payment without penalty; whereas others should be recorded when the goods, services, etc. to which they are offsets change ownership. For capital account transactions the time of change of ownership is, by convention, normally taken to be the time at which transactions are entered in the books of the transactors. Entries for loan drawings should be based on actual disbursements and not on commitments or authorisations. Entries for loan repayments should be recorded at the time they become due rather than on the actual payment date.

In practice, the nature of the available data sources is such that the time of recording of transactions will often differ from the time of change of ownership. This is particularly true in the case of transactions in goods which are, in the main, recorded at the time that administrative records relating to the movement of the goods across the customs frontier are processed. Where practical, timing adjustments are made for transactions in certain goods to ensure that they are recorded in the time period in which change of ownership occurs.

In the tables that follow, global estimates of the current and capital accounts of the Australian balance of payments are presented. Current transactions are recorded *gross* and capital transactions *net*. This means that for each item in the current account the credit entries are recorded separately from the debit entries. For example, *travel credits* is shown separately from *travel debits*. For each item in the capital account, debit and credit transactions are combined to produce a single result for the item, which may be either a net credit or a net debit. For example, in a given period, foreign purchases of shares issued by companies in Australia (credit) are netted against foreign sales of similar shares (debit) and the net result is recorded in the appropriate item in the capital account.

The current account records transactions between Australian residents and non-residents in merchandise, other goods and services, income and unrequited transfers. In principle, the items included in merchandise should include all movable goods, with a few exceptions, which change ownership from residents to non-residents (exports) and from non-residents to residents (imports). Services covers services rendered by Australian residents to non-residents (credits) and by non-residents to residents (debits), together with transactions in a few types of goods (e.g. goods purchased by travellers). Income covers income earned by Australian residents from non-residents (credits) or by non-residents from residents (debits). It includes investment income (e.g. dividends and interest), other property income (e.g. royalties) and labour income (e.g. wages and salaries). Unrequited transfers covers the offsetting entries required by the double-entry system of accounting when resources (goods, services and financial assets) are provided, without something of economic value being received in return, by non-residents to Australian residents (offsetting credits required) and by residents to non-residents (offsetting debits required). It includes foreign aid, migrants' transfers, gifts, donations, pensions and taxes.

The capital account records transactions in Australia's foreign financial assets and liabilities, including the creation and extinction of claims on or by the rest of the world and a few specified other changes. Capital transactions are grouped into two broad institutional sectors called official and non-official. The official sector is split into general government and Reserve Bank of Australia. The general government sector comprises the transactions of Departments of State and similar entities that are agents or instruments of Commonwealth, State or local government. State government central, borrowing authorities and private non-profit organisations serving government are included in this category. Public business enterprises are, however, excluded from this sector and included in the non-official sector. The Reserve Bank sector covers transactions attributed to the central bank. The non-official sector covers transactions of all other resident entities including banks, non-bank financial enterprises and trading enterprises, and households.

CURRENT ACCOUNT
($ million)

	1986–87	*1987–88*	*1988–89*
Current transactions—			
Goods and services—			
Merchandise *(a)*—			
Exports f.o.b.	35,423	40,541	42,938
Imports f.o.b.	–37,159	–40,386	–47,013
Balance on merchandise trade	*–1,736*	*155*	*–4,075*
Services—			
Credits—			
Shipment	462	537	544
Other transportation	2,765	3,142	3,216
Travel	2,658	3,792	4,691
Other services	2,020	2,370	2,635
Total services credits	*7,905*	*9,841*	*11,086*
Debits—			
Shipment	–2,756	–2,856	–3,146
Other transportation	–2,114	–2,510	–2,896
Travel	–3,104	–3,698	–4,251
Other services	–2,911	–3,246	–3,439
Total services debits	*–10,885*	*–12,310*	*–13,732*
Net services	*–2,980*	*–2,469*	*–2,646*
Balance on goods and services	*–4,716*	*–2,314*	*–6,721*
Income—			
Credits—			
Property income—			
Reinvested earnings	1,176	1,806	2,196
Other	1,629	1,544	1,842
Labour and other income	178	215	245
Total income credits	*2,983*	*3,565*	*4,283*
Debits—			
Property income—			
Reinvested earnings	–1,244	–2,428	–2,604
Other	–10,938	–12,055	–14,349
Labour and other income	–197	–264	–309
Total income debits	*–12,379*	*–14,747*	*–17,262*
Net income	*–9,396*	*–11,182*	*–12,979*
Unrequited transfers—			
Credits	3,017	3,545	4,268
Debits	–1,804	–1,881	–1,994
Net unrequited transfers	*1,213*	*1,664*	*2,274*
Balance on current account	**–12,899**	**–11,832**	**–17,426**

(a) Balance of payments basis.

CAPITAL ACCOUNT AND BALANCING ITEM

($ million)

	1986–87	*1987–88*	*1988–89*
Net capital transactions			
Official—			
General government—			
Foreign investment in Australia—			
Borrowing	6,146	4,087	993
Other	–12	–72	–188
Total	*6,134*	*4,015*	*805*
Australian investment abroad	–573	415	–240
Total general government	*5,561*	*4,430*	*565*
Reserve Bank—			
Foreign investment in Australia	18	–8	—
Australian investment abroad—			
Reserve assets	–3,394	–3,924	–873
Other	—	—	—
Total	*–3,394*	*–3,924*	*–873*
Total Reserve Bank	*–3,376*	*–3,932*	*–873*
Total official	*2,185*	*498*	*–308*
Non official—			
Foreign investment in Australia—			
Direct investment—			
Reinvestment of earnings	1,244	2,428	2,604
Other	2,818	2,779	4,573
Portfolio and other investment	11,084	13,751	14,256
Total foreign investment in Australia	*15,146*	*18,958*	*21,433*
Australian investment abroad—			
Direct investment—			
Reinvestment of earnings	–1,176	–1,806	–2,196
Other	–3,068	–8,038	–3,032
Portfolio and other investment	–4,164	–1,041	–3,737
Total Australian investment abroad	*–8,408*	*–10,885*	*–8,965*
Total non-official	*6,738*	*8,073*	*12,468*
Balance on capital account	*8,923*	*8,571*	*12,160*
Balancing item	*3,976*	*3,261*	*5,266*

OFFICIAL RESERVE ASSETS AND AVERAGE EXCHANGE RATES

(*Source*: **Reserve Bank of Australia for official reserve assets**)

	Financial year ending 30 June—		
	1987	*1988*	*1989*
Levels of official reserve assets *(a)*		—$ million—	
Foreign exchange—			
United States dollars	6,571	8,015	6,813
Other	5,266	6,926	8,925
Special drawing rights	471	420	398
Reserve position in IMF	335	312	414
Gold	4,951	4,509	3,861
Total	**17,594**	**20,182**	**20,410**
Exchange rates		—Units of foreign currency per $A—	
End of year *(b)*—			
United States dollar	0.7203	0.7940	0.7553
United Kingdom pound	0.4494	0.4612	0.4882
West German mark	1.319	1.441	1.480
Japanese yen	105.79	105.17	108.79
Special drawing right	0.5634	0.6059	0.6051
Period average *(c)*—			
United States dollar	0.6636	0.7290	0.8160
United Kingdom pound	0.4352	0.4167	0.4755
West German mark	1.280	1.262	1.512
Japanese yen	101.37	97.58	106.95
Special drawing right	0.5345	0.5448	0.6244

(a) SDRs, and Australia's reserve position in the IMF are based on the IMF basket valuation for the SDR, which is published in terms of US dollars crossed with the representative rate for the Australian dollar in terms of the US dollar. Gold is valued at the average London gold price for the month, converted to Australian dollars at the market rate of exchange applying on the last trading day of the month The foreign currency value of all other overseas assets has been based, where applicable, on market quotations. Accrued interest is normally taken into account. Conversion to Australian dollar equivalent is based on end of period market rates of exchange *(b)* These exchange rates relate to the last trading day of the reference period *(c)* These exchange rates are derived by averaging figures for each trading day.

VALUES OF EXPORTS AND IMPORTS OF GOODS AND SERVICES (BALANCE OF PAYMENTS BASIS) AT CONSTANT PRICES

The following tables show annual values of Australian exports and imports of goods and services at current and constant (average 1984–85) prices. These estimates are compiled on a balance of payments basis within the framework outlined below. Quarterly figures in original and seasonally adjusted terms are published regularly in *Balance of Payments, Australia* (5302.0).

The current price value of a transaction may be expressed conceptually as the product of a price and quantity. The value of the transaction at constant prices may then be thought of as being derived by substituting, for the current price, the corresponding price in the chosen base year. There are, however, many transactions recorded in statistics of overseas trade for which it is not possible to apply such an approach. In such cases it is necessary to make assumptions and approximation (e.g. revaluing by means of the price index which is considered to be most closely related to the commodity involved). The published estimates at constant prices should be viewed in this light.

Estimates at current prices are often divided by their corresponding estimates at constant prices to give measures of price change, which are generally referred to as implicit price deflators (IPDs). IPDs are derived measures and are not normally the direct price measures by which current price estimates are converted to estimates at constant prices. A more detailed discussion of the nature of IPDs is presented in Appendix VI of the publication *Australian National Accounts: Concepts, Sources and Methods* (5216.0).

Merchandise (Balance of Payments basis)

Prior to 1988 exports and imports of goods f.o.b. were compiled using the Australian Export Commodity Classification (AECC) and the Australian Import Commodity Classification (AICC) based on the second revision of the United Nations Standard International Trade Classification (SITC rev. 2). From 1 January 1988 exports and imports of goods f.o.b. have been compiled using the Harmonized Commodity Description and Coding System (HS) based on the third revision of the SITC (SITC rev. 3). This means that commodity data prior to 1988 are not strictly comparable with later data; however the lack of comparability for the aggregates presented in the tables below is thought to be minor.

The published components of merchandise exports and imports of goods f.o.b. consist of varying numbers of SITC rev. 3 divisions and/or sections as shown below.

Exports	*Section or division of SITC rev. 3*	*Imports*	*Section or division of SITC rev. 3*
Rural—		Food, beverages and tobacco	0,1
Meat and meat preparations	01	Fuels	3
Cereal grains and cereal preparations	04	Chemicals (incl. plastics)	5
Sugar, sugar preparations and honey	06	Textiles, fabrics, etc.	65
Wool and sheepskins	21 (part), (26 part),	Metals and metal manufactures	67 to 69
Other rural	00,02,03,05,07 to 09, 21 (part) 22 to 25, 26 (part), 29, 4	Machinery	71 to 77
		Transport equipment	78, 79
		Manufactures n.e.c.	61 to 64, 66 8
Non-rural—		Other imports	2, 4, 9
Metal ores and minerals	27,28		
Mineral fuels—			
Coal, coke and briquettes	32		
Other mineral fuels	33 to 35		
Metals—			
Gold	97		
Other metals	67, 68		
Machinery	71 to 77		
Transport equipment	78, 79		
Manufactures n.e.c.	5, 61 to 66, 69, 8		
Other non-rural	11, 91 to 96		

Services

Services covers services rendered by Australian residents to non-residents (credits) and by non-residents to residents (debits), together with transactions in a few types of goods (e.g. goods purchased by travellers).

Exogenous and endogenous imports

Exogenous imports comprise a group of imported goods which it has been found useful to identify separately in economic analysis because the transactions in these goods are erratic, subject to government arrangements or significantly affected by factors other than the general level of economic activity in Australia. Exogenous imports include fuels, ships, aircraft and certain other large items of equipment acquired by selected public and private sector trading enterprises, defence goods and certain other government goods.

Endogenous imports comprise imports of all goods other than those regarded as exogenous.

Endogenous imports are classified into three classes—*consumption goods, capital goods* and *other goods*—according to the United Nations' classification by broad economic categories (BEC). Other goods covers the BEC class *intermediate goods* and the residual BEC category *goods not elsewhere specified.* The classes consist of the BEC categories (excluding goods defined as exogenous) shown below.

Consumption goods—
Food and beverages, primary, mainly for household consumption (112)
Food and beverages, processed, mainly for household consumption (122)
Passenger motor vehicles (51)
Transport equipment, non-industrial (522)
Consumer goods, not elsewhere specified (6)

Capital goods—
Capital goods (except transport equipment) (41)
Transport equipment, industrial (521)

Other goods—
Food and beverages, primary, mainly for industry (111)
Food and beverages, processed, mainly for industry (121)
Industrial supplies not elsewhere specified (2)
Parts and accessories of capital goods (except transport equipment) (42)
Parts and accessories of transport equipment (53)
Goods not elsewhere specified (7)

EXPORTS OF GOODS AND SERVICES (BALANCE OF PAYMENTS BASIS) AT CURRENT AND AVERAGE 1984–85 PRICES

($ million)

	1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
AT CURRENT PRICES						
Rural exports f.o.b.						
Meat and meat preparations	1,393	1,371	1,699	2,244	2,555	2,248
Cereal grains and cereal preparations	2,773	3,855	3,880	2,778	2,202	2,733
Sugar, sugar preparations and honey	676	615	646	708	698	889
Wool and sheepskins	2,000	2,573	3,061	3,888	5,811	5,951
Other (dairy produce, fruit, etc.)	2,145	2,438	2,968	3,521	3,976	3,996
Total rural	*8,987*	*10,852*	*12,254*	*13,139*	*15,242*	*15,817*
Non-rural exports f.o.b.						
Metal ores and minerals	4,229	4,722	5,003	4,956	5,455	6,585
Mineral fuels—						
Coal, coke and briquettes	3,338	4,665	5,240	5,456	4,850	4,733
Other	1,437	2,360	2,299	1,515	1,779	1,258
Metals—						
Gold	379	556	787	1,552	2,563	2,731
Other metals	1,987	2,335	2,527	2,899	3,749	4,661
Machinery	883	940	1,139	1,595	1,835	1,866
Transport equipment	496	714	474	1,034	957	884
Manufactures n.e.c.	1,562	1,662	1,859	2,363	2,941	3,273
Other non-rural	384	406	626	914	1,170	1,216
Total non-rural	*14,695*	*18,360*	*19,954*	*22,284*	*25,299*	*27,207*
Total exports f.o.b.	*23,682*	*29,212*	*32,208*	*35,423*	*40,541*	*43,024*
Exports of services	*4,913*	*5,543*	*6,485*	*7,725*	*9,518*	*10,850*
Total exports of goods and services	**28,595**	**34,755**	**38,693**	**43,148**	**50,059**	**53,874**
AT AVERAGE 1984–85 PRICES						
Rural exports f.o.b.						
Meat and meat preparations	1,477	1,371	1,639	1,930	2,130	1,866
Cereal grains and cereal preparations	2,853	3,855	3,957	3,462	2,764	2,579
Sugar, sugar preparations and honey	586	615	640	653	640	675
Wool and sheepskins	2,224	2,573	2,823	3,253	3,204	2,904
Other (dairy produce, fruit, etc.)	2,287	2,438	2,891	3,170	3,125	3,147
Total rural	*9,427*	*10,852*	*11,950*	*12,468*	*11,863*	*11,171*
Non-rural exports f.o.b.						
Metal ores and minerals	4,656	4,722	4,819	4,733	5,219	5,313
Mineral fuels—						
Coal, coke and briquettes	3,635	4,665	4,886	5,232	5,543	5,315
Other	1,647	2,360	2,275	2,347	2,542	2,248
Metals—						
Gold	342	556	664	1,032	1,561	2,060
Other metals	2,190	2,335	2,475	2,543	2,662	2,847
Machinery	940	940	1,063	1,458	1,647	1,647
Transport equipment	551	714	466	934	868	834
Manufactures n.e.c.	1,635	1,662	1,718	1,954	2,184	2,385
Other non-rural	425	406	594	811	1,007	939
Total non-rural	*16,021*	*18,360*	*18,960*	*21,044*	*23,233*	*23,588*
Total exports f.o.b.	*25,448*	*29,212*	*30,910*	*33,512*	*35,096*	*34,759*
Exports of services	*5,152*	*5,543*	*5,897*	*6,536*	*7,620*	*8,392*
Total exports of goods and services	**30,600**	**34,755**	**36,807**	**40,048**	**42,716**	**43,151**

IMPORTS OF GOODS AND SERVICES (BALANCE OF PAYMENTS BASIS) AT CURRENT AND AVERAGE 1984–85 PRICES
($ million)

	1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*1988–89*
		AT CURRENT PRICES				
Food, beverages and tobacco	1,211	1,476	1,705	1,936	2,013	2,209
Fuels	2,209	2,321	1,909	1,751	2,036	2,014
Chemicals (incl. plastics)	2,155	2,567	3,003	3,466	4,280	4,973
Textile, fabrics, etc.	1,304	1,452	1,669	1,830	1,931	2,002
Metals and metal manufactures	1,143	1,462	1,695	1,845	2,205	2,625
Machinery	6,325	8,308	10,827	11,360	12,230	13,793
Transport equipment	2,936	4,512	5,415	4,502	4,152	6,852
Manufactures n.e.c.	4,681	5,930	6,892	7,700	8,563	9,766
Other imports	1,533	2,065	2,561	2,769	2,976	2,821
Total imports f.o.b.	*23,497*	*30,093*	*35,676*	*37,159*	*40,386*	*47,055*
of which:						
Exogenous	3,098	4,237	4,539	4,459	3,829	4,207
Endogenous—						
Consumption goods	5,616	6,918	8,123	8,296	9,348	11,441
Capital goods	4,936	6,567	8,146	8,031	8,578	10,586
Other goods	9,847	12,371	14,868	16,373	18,631	20,821
Total endogenous	*20,399*	*25,856*	*31,137*	*32,700*	*36,557*	*42,848*
Imports of services	*7,695*	*9,412*	*10,411*	*10,858*	*12,256*	*13,580*
Total imports of goods and services	**31,192**	**39,505**	**46,087**	**48,017**	**52,642**	**60,635**
		AT AVERAGE 1984–85 PRICES				
Food, beverages and tobacco	1,350	1,476	1,488	1,532	1,632	1,946
Fuels	2,370	2,321	2,070	2,753	2,935	3,620
Chemicals (incl. plastics)	2,328	2,567	2,608	2,769	3,284	3,780
Textiles, fabrics, etc.	1,489	1,452	1,444	1,426	1,452	1,572
Metals and metal manufactures	1,267	1,462	1,455	1,424	1,606	1,813
Machinery	6,805	8,308	9,529	9,280	10,829	13,799
Transport equipment	3,310	4,512	4,404	3,167	2,772	5,001
Manufactures n.e.c.	5,167	5,930	5,891	5,754	6,309	7,419
Other imports	1,683	2,065	2,251	2,173	2,333	2,317
Total imports f.o.b.	*25,769*	*30,093*	*31,140*	*30,278*	*33,152*	*41,267*
of which:						
Exogenous	3,395	4,237	4,468	5,060	4,598	5,760
Endogenous—						
Consumption goods	6,492	6,918	6,886	6,210	6,955	8,826
Capital goods	5,218	6,567	7,040	6,357	7,287	10,027
Other goods	10,665	12,371	12,796	12,651	14,312	16,654
Total endogenous	*22,374*	*25,856*	*26,672*	*25,218*	*28,554*	*35,507*
Imports of services	*8,419*	*9,412*	*8,947*	*8,659*	*9,654*	*11,378*
Total imports of goods and services	**34,188**	**39,505**	**40,087**	**38,937**	**42,806**	**52,645**

FOREIGN PARTICIPATION STATISTICS

Foreign participation statistics include statistics on both foreign ownership and control of enterprises in Australia. Foreign ownership statistics provide a measure of the beneficial equity interest held by foreign residents (individuals and companies) in enterprises in Australia. Foreign control statistics provide a measure of the potential control, through ownership of voting shares, that foreign residents may have over the key policy decisions of enterprises in Australia. Following the termination of a previous program of studies in 1978, a program of foreign participation studies of industries and economics activities was reintroduced in 1982.

Brief explanatory notes and separate summary tables of ownership and control statistics are presented in the following tables for the most recent studies undertaken in the current program.

For agriculture, separate measures are provided for ownership of agricultural land and for ownership and control of agricultural activity. The statistics presented on foreign ownership of agricultural land are based on the ownership characteristics of the landowners. The statistics on foreign ownership and control of agricultural activity, on the other hand, are based on the ownership characteristics of the businesses operating on agricultural land. The owners of any particular parcel of land and the business operating on that land can, of course, be different entities.

Scope and methodology

The scope of each study together with the methodology used is outlined in the individual foreign participation publications listed in the bibliography at the end of the chapter. The statistical unit used in the compilation of the statistics is also defined in each publication. Generally, foreign participation characteristics for statistical units in each study were derived from information on ownership links collected from enterprises included in the biennial ABS Survey of Shareholdings.

Measurement of ownership and control

Foreign ownership is measured in terms of the beneficial equity interest (through ownership links) of all identified foreign residents:

(a) in enterprises operating in Australia, or

(b) in agricultural land.

In order to calculate the beneficial equity interests of foreign residents whose interests are held through other enterprises in Australia, all relevant ownership links are multiplied together. *Australian ownership* is all ownership not identified as foreign ownership.

To measure the aggregate levels of foreign and Australian ownership in a particular industry, the amount reported for the selected data item (such as value added, premiums received, assets, gross value of agricultural commodities produced or area of agricultural land) for each statistical unit is apportioned between foreign and Australian ownership in proportion to percentages of foreign and Australian ownership in that unit. Data for each unit are then aggregated to obtain totals of foreign and Australian ownership.

In *control statistics*, enterprises are classified to one of four categories of control: foreign control; joint foreign and Australian control; naturalised or naturalising; and Australian control.

An enterprise is classified to *foreign control* if it has not been granted naturalised or naturalising status under the government's foreign investment policy and if a foreign investor (individual, company or group of related companies) or a foreign controlled enterprise holds at least 25 per cent of its voting shares and there are no equal or larger shareholdings by an Australian resident, an Australian controlled enterprise or a joint foreign and Australian controlled enterprise. Enterprises in which there are no dominant investors holding at least 25 per cent of the voting shares but all the voting shares are held by foreign residents are also classified to *foreign control.*

An enterprise is classified to *joint foreign and Australian control* if it does not have naturalised or naturalising status and either the single largest shareholder has 25 per cent or more of the voting shares and is itself joint foreign and Australian controlled or there are two or more equally large investors (there being no single larger investor) each with 25 per cent or more of the voting shares in the enterprise and:

(a) at least one of these investors is either a foreign resident or foreign controlled enterprise and at least one of these investors is either an Australian resident individual or an Australian controlled enterprise; or

(b) at least one of these investors is joint foreign and Australian controlled.

An enterprise is classified to *naturalised or naturalising* if it had such status (at the reference period pertinent to each study) under the government's foreign investment policy and would otherwise be classified to either foreign control or joint foreign and Australian control.

All enterprises not classified to foreign control, joint foreign and Australian control, or naturalised or naturalising are classified to *Australian control.*

To measure the levels of control in an industry (or economic activity) for each of these four categories of control, the whole of the amount reported for the selected data item (such as value added, type of expenditure, premiums received, assets, gross value of agricultural commodities produced or value of imports) for each statistical unit is allocated to the control category of that unit. Data for each unit are then aggregated to obtain totals for the industry (economic activity) attributable to each of the four control categories.

Country of ownership and control

In the following two tables the classification by country of foreign ownership or control are based on the country of domicile of the immediate foreign investor which may not be the country of the ultimate foreign investor.

OWNERSHIP SUMMARY BY COUNTRY OF OWNERSHIP

Industry/activity	Reference period	Ownership measured in terms of:	Total value of measure used	Foreign ownership					Australian ownership	Total
				USA	UK	Other EEC(a)	Other	Total		
			$ million				—per cent—			
Manufacturing industry	1982–83	value added	31,059.1	12.2	12.7	1.8	6.2	32.9	67.1	100.0
Transport industry	1983–84	value added	6,959.7	1.0	2.9	0.4	0.9	5.1	94.9	100.0
Life insurance industry	1983–84	premiums received	3,306.8	2.7	20.6	3.2	13.8	40.3	59.7	100.0
General insurance industry	1983–84	premiums receivable	5,934.8	2.5	17.0	4.9	9.8	34.1	65.9	100.0
Agriculture—										
Agriculture activity	1983–84	gross value of agricultural commodities produced	15,317.2	0.5	0.7	0.5		1.8	98.2	100.0
			million hectares							
Agricultural land	at 31 March 1984	agricultural land area	486.6	1.8	2.4	0.2	1.4	5.9	94.1	100.0
			$ million							
Mining industry	1984–85	value added	10,609.9	21.7	13.3	1.9	7.8	44.7	55.3	100.0
Private sector construction industry	1984–85	value added	7,950.5	1.4	3.6	2.8	1.6	9.6	90.4	100.0
Banking industry	June 1986	asset	154,587.8	5.3	7.5	8.2		21.0	79.0	100.0
Registered financial corporations	June 1986	assets	105,090.9	11.4	10.8	13.1		35.4	64.6	100.0

(a) Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg and Netherlands.

CONTROL SUMMARY BY COUNTRY OF CONTROL

Industry/activity	Reference period	Control measured in terms of:	Total value of measure used	Foreign control					Joint foreign and Australian Control	Naturalised and Naturalising	Australian Control	Total
				USA	UK	Other E.E.C. (a)	Other	Total				
			$ million	—per cent—								
Manufacturing industry	1982–83	value added	31,059.1	12.4	12.9	1.9	4.9	32.1	1.2	1.3	65.4	100.0
New fixed capital expenditure by private enterprises, selected industries	1982–83	new fixed capital expenditure	15,805.6	15.6	10.5	1.1	2.7	29.9	7.1	2.0	61.0	100.0
Transport industry	1983–84	value added	6,959.7	0.4	2.3	0.4	0.2	3.4	0.1		96.5	100.0
Life insurance industry	1983–84	premiums received	3,306.8	2.9	15.7	4.6	3.4	26.6	(b)n.a.	..	73.4	100.0
General insurance industry	1983–84	premiums receivable	5,934.8	2.4	15.6	5.7	9.0	32.6	3.3	..	64.1	100.0
Agricultural activity	1983–84	gross value of agricultural commodities produced	15,317.2	0.5	0.5	0.5		1.5	0.2		98.2	100.0
Mining industry	1984–85	value added	10,609.9	7.9	5.8	1.5		15.2	24.8	11.5	48.5	100.0
Private sector construction industry	1984–85	value added	7,950.5	1.1	3.2	4.7	1.0	10.0	0.4	..	89.6	100.0
Private mineral exploration other than for petroleum	1984–85	exploration expenditure	437.3	14.6	13.2	4.8	3.2	35.9	16.7		47.5	100.0
Private petroleum exploration	1984–85	exploration expenditure	803.2	22.3	7.9	3.9	3.2	37.3	6.2		56.5	100.0
Imports	1984–85	value of imports	29,050.8	18.9	12.5	4.4	17.4	53.2	0.5	0.2	46.1	100.0
Exports	1985–86	value of exports	32,321.2	13.9	7.9	3.8	10.1	35.6	0.4	8.3	55.6	100.0
Research and experimental development	1986–87	expenditure	118.9	12.5	8.9	1.5	8.5	31.5	0.3	6.9	61.3	100.0
Banking industry	June 1986	assets	154,587.8	1.1	1.1	3.0		5.1	1.3	..	93.6	100.0
Registered financial corporations	June 1986	assets	105,090.9	10.6	9.0	9.2		28.9	2.4	..	68.7	100.0

(a) Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg and Netherlands. (b) Only one enterprise in this category was identified. It has been included in the statistics for the foreign control category.

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Exports, Australia (5434.0)—quarterly
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Foreign Trade, Australia, Exports (5436.0)—annual
Foreign Trade, Australia, Imports (5437.0)—annual

Other Publications

Related publications are available from:
Australian Customs Service—
(a) Australian Customs Tariff
Customs (Prohibited Imports) Regulations

Other Information

Foreign Trade Statistics

In addition to the publications listed above, foreign trade statistics are also available via a number of special services which are described below. These services provide data on a monthly, quarterly or less frequent basis.

Special returns service: Subscribers to this service can receive foreign trade statistics at a particular commodity level on computer produced printout or via the electronic mail service TELESTATS. These statistics are available approximately 4 weeks after the end of the reference period in one or more of a limited number of formats, for a charge consistent with the level of detail required. More details concerning the special returns service are contained in the information paper *Foreign Trade Statistics: Special Returns Service* (5480.0).

Microfiche service: Foreign trade statistics are also available on microfiche in a variety of tabular formats. Each tabular format covers all commodities exported or imported at various levels of aggregation. This service is recommended where the subscriber wishes to obtain foreign trade statistics for a large number of commodities. Details of this service are contained in the ABS information paper *Foreign Trade and Shipping Statistics: Microfiche Service* (5483.0).

Magnetic tape service: Statistics for imports, exports and import clearances are available on magnetic tape approximately 4 weeks after the end of the reference period. This service is recommended where the subscriber wishes to obtain trade data at the most detailed level. Documentation regarding the content and structure of these tapes is contained in the ABS information paper *Foreign Trade and Shipping Statistics: Magnetic Tape Service* (5484.0).

To satisfy special needs, where none of the standard output referred to above are appropriate, special 'customised' reports can also be made available. These can be provided on floppy disk if required.

Payment is generally required in advance for all these services.

Foreign Investment and Balance of Payments Statistics

Foreign investment and balance of payments statistics are available on TELESTATS, AUSSTATS, VIATEL and floppy disk (balance of payments only). In addition, much unpublished information is available on request for a charge. The ABS should be contacted to obtain details about the availability of unpublished information.

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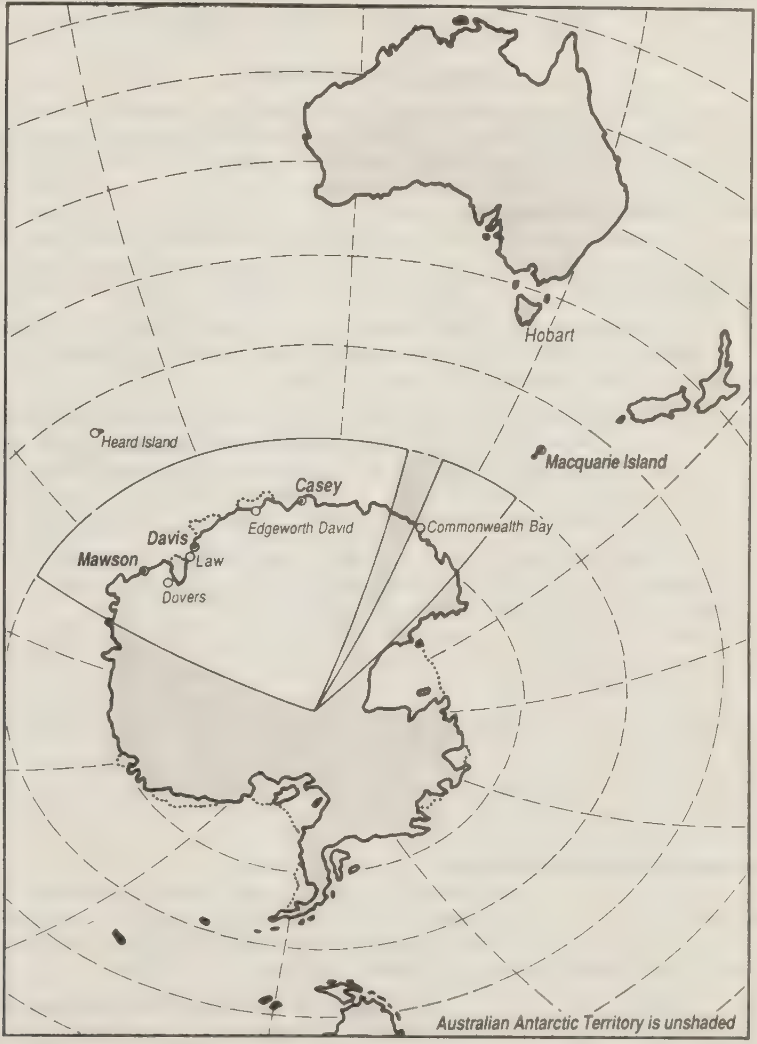
THE TERRITORIES OF AUSTRALIA


Hobart
Heard Island
Macquarie Island
Casey
Edgeworth David
Commonwealth Bay
Davis
Mawson
Law
Dovers
Australian Antarctic Territory is unshaded

Source—Australian Antarctic Division

The internal Territories of Australia are the Northern Territory, the Australian Capital Territory and the Jervis Bay Territory. The seven external Territories under Australian Administration are: Norfolk Island; the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; the Territory of Christmas Island; the Coral Sea Islands Territory and the Territory of Ashmore and Cartier Islands.

More detailed statistics and additional descriptive matter are to be found in the Annual Reports of the administrations of the various Territories and in the *Northern Territory Statistical Summary* (1306.7) and the *Australian Capital Territory Statistical Summary* (1307.8) issued by the Australian Bureau of Statistics. Statistics for the Northern Territory and the Australian Capital Territory are also included in chapters dealing with particular subjects.

THE NORTHERN TERRITORY

General Description

The total area of the Northern Territory is 1,346,200 square kilometres. The seat of Government is Darwin on the north coast. The estimated resident population of the Darwin Statistical Division at 30 June 1986 was 72,937.

Northern Territory self-government

The Northern Territory was established as a self-governing territory by the *Northern Territory (Self-Government) Act 1978* of the Commonwealth. Under that Act, the Commonwealth transferred most of its powers to the Government of the Northern Territory.

In all fields of transferred power, the Government is similar to that of the Australian States, with some differences in titles, for example there is an Administrator instead of a Governor and a Chief Minister instead of a Premier.

The Administrator, appointed by the Governor-General, has responsibility for administering the Government of the Northern Territory. The Administrator is advised by an Executive Council composed of all Northern Territory Ministers, led by the Chief Minister, and acts with the advice of the Executive Council on all matters transferred to the Northern Territory. The Administrator acts with Commonwealth advice on matters not transferred.

The Legislative Assembly of the Northern Territory is the Northern Territory's Parliament. It has 25 Members, who are elected for a period of four years. A Speaker is elected by, and Ministers are appointed from, the Members of the Legislative Assembly. A Ministry of nine is responsible for the administration of all transferred powers and acts through a number of departments and authorities, most of which are staffed by the Northern Territory Public Service.

Local government was established in Darwin in 1957 and later in regional centres. Municipal councils are elected by universal adult franchise, with elections at intervals of not more than three years. Provision has been made for a limited form of local government by smaller communities. There has been considerable interest in this provision, particularly in Aboriginal communities.

Development of administration

Upon the extension of New South Wales westwards to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1 January 1911.

From 1911 until 30 June 1978, the Commonwealth administered the Northern Territory under the provisions of the *Northern Territory (Administration) Act 1910*, as amended.

The Act provided for an Administrator, appointed by the Governor-General, to administer the Northern Territory on behalf of the Commonwealth Government.

By amendment of the Act in 1947, a Legislative Council comprising seven official and six elected members, with the Administrator as President, was created to make laws for the peace, order and good government of the Northern Territory. Composition of the Legislative Council was changed by further amendment in 1959 to provide for six official members, three nominated non-official members and eight elected members, and for an Administrator's Council to advise the Administrator. The Act was further amended in 1974 to provide for a Legislative Assembly of 19 elected Members and for a Speaker to be one of those Members, elected by the Members.

Laws passed by the Assembly were presented to the Administrator for assent. The Administrator was required to reserve laws on specific subjects for the pleasure of the Governor-General who was empowered to assent, withhold his assent or refuse his assent in part to such laws, or to return them to the Assembly with recommended amendments.

On 1 January 1977, the Commonwealth Government began a program of transferring executive powers to the Legislative Assembly by amendment of the Northern Territory (Administration) Act. A separate Northern Territory Public Service was created and administrative powers were transferred. Positions of Executive Member were created under the Act. These Members exercised ministerial-type powers in respect of transferred matters such as policy, fire brigade, local government and correctional services. An Executive Council replaced the Administrator's Council.

On 1 July 1978, the Northern Territory (Self-Government) Act came into force and established the Northern Territory as a body politic under the Crown. This Act also provided for the appointment of an Administrator by the Governor-General. It created offices of Ministers of the Northern Territory who, together with the Administrator, formed the Executive Council of the Northern Territory. A Northern Territory Government, comprising Ministers of the Northern Territory, was established with full responsibility for a range of State-type transferred powers administered through a Northern Territory Public Service and a Treasury. A Northern Territory flag was raised for the first time on 1 July 1978, the date upon which the Northern Territory became self-governing.

Major matters not transferred on 1 July 1978 were the mining of uranium and other prescribed substances, Aboriginal land matters, health, education and the Supreme Court. Powers in respect of health, education and the Supreme Court were progressively transferred from the Commonwealth to the Northern Territory Government during 1979.

At the end of 1979, the only major powers retained by the Commonwealth in the Northern Territory were those relating to rights in respect of Aboriginal land and the mining of uranium and other prescribed substances. Since the end of 1979, the Northern Territory, although remaining a Territory of the Commonwealth and still subject to Commonwealth laws made under Section 122 of the Constitution, is in most respects a self-governing Territory.

The Northern Territory is represented in the Parliaments of the Commonwealth by one Member in the House of Representatives and two Senators, whose terms of office coincide with that of the member in the House of Representatives. Since October 1984 the Cocos (Keeling) Islands have been included in the Northern Territory electorate for the purposes of all federal elections and referenda.

Physical geography and climate

The Northern Territory has a mainland coastline that is 5,100 kilometres long, with a further 2,100 kilometres of coast around off-lying islands. A broad, shallow, low-gradient continental shelf, being less than 200 metres deep, runs for more than 140 kilometres offshore. Most of the coast is low-lying; cliffs, rarely exceeding 20 metres high, have been cut into weathered lateritic rocks, and there are active and cemented dunes, more than 50 metres high, on the western shore of the Gulf of Carpentaria. Coral reefs are best developed on the north coast and around off-lying islands. Most of the coastline consists of unvegetated mudflats, or mangrove swamps, which cover an area of approximately 2,400 square kilometres. The large tidal range of the north-western coast and the low gradient of the coastal lowlands means that some of the larger rivers are tidal for more than 100 kilometres upstream from their mouth. There are extensive seasonally-flooded coastal plains and black soil plains fringing the river systems, between the dissected lateritic lowlands, along much of the coast to the north-west and around the Gulf of Carpentaria.

Inland, the coastal lowlands merge into the dissected sandstone plateaux of Arnhem Land to the north, the granitic and sandstone Ord–Victoria river plateaux to the west, with rounded ridges of largely metamorphic rocks between those plateaux. The central section of the Northern Territory is formed of shallowly dissected lateritised sandstone ridges and sandplains. To the west there are the Lander dunefields with east–west trending longitudinal dunes, and to the east the black clay plains and limestone or sandstone rises of the Barkly Tablelands. The southern end of the Northern Territory is dominated by the Central Australian Ranges. These consist of granitic, sandstone and quartzitic ridges, separated by sandplains or stony lowlands. The folded Macdonnell Ranges, running east–west, contain the highest point in the Territory, Mount Zeil, 1,511 metres high. To the south-east there is a part of the Simpson Desert with north-west–south-east trending longitudinal dunes.

There are two main climatic divisions: the wet season from November to April; and the dry season from May to October. The changes of weather are uniform and regular. Nearly all the rainfall occurs in the summer months.

Fauna and flora of the Northern Territory

The Northern Territory contains an immense array of faunal habitats, from arid deserts to the wet/dry tropics. Consequently, the fauna is characterised by species abundance, many of which are endemic to the Territory.

There are about 378 species of birds, 264 reptiles, 125 mammals, 42 amphibians and 100,000 species of insects, well represented by termites, ants and butterflies. In contrast to these distinctly Australian terrestrial fauna, the marine fauna of the Northern Territory is very similar to the Indo–Malay Archipelago immediately to the north.

The Northern Territory is famous for the saltwater crocodile which inhabits most rivers within 100 kilometres of the coast. It is also noted for its introduced feral animals, particularly herds of wild buffalo, banteng cattle, Timor ponies, samba deer, camels and donkeys.

The most distinct faunal region is centred on the sandstone escarpment of Arnhemland, including Kakadu National Park which is on the World Heritage List. Amongst the endemic fauna to be found there are the black wallaroo, the white-striped sheath-tailed bat, the blackbanded pigeon and the white-throated and Carpentaria grass-wrens. There are also endemic fish (rainbow and primitive archer fish), insects (Leichhardt's grasshopper), and reptiles (Oenpelli python, a gecko, and a stunted variety of Johnston's freshwater crocodile).

In the central deserts surrounding Alice Springs, the harsh climate promotes crypticism among the smaller native species, but plagues of rodents and small marsupials occasionally emerge following suitable rainfall. Distinctly Australian species include the bilby (a bandicoot), the thorny mountain devil (a lizard) and the Major Mitchell cockatoo. Snakes, many of which are venomous, are common throughout all habitats in the Territory. Introduced pests, especially the rabbit, can become extremely abundant in arid areas and constitute a serious threat to the pastoral industry. Similarly, the introduced fox and feral cats have been implicated in the decline or extinction of several native species.

Northern Territory vegetation is Australian in character although there is a significant component of the flora derived from the Indo–Malayan regions. In the 'Top End', the monsoon climate, the frequent fires associated with it and the poor soils, support eucalypt forests with open savanna understoreys. Pockets of monsoon forests, similar to rainforest, occur on sites with superior moisture supply during the seven month drought. Associated with the lower rainfall further inland, the height and density of forests decreases to form low woodlands. On the Barkly Tablelands and parts of the Victoria Rivers district, savanna with scattered shrubs occur. On the sandy plains of the interior and on the rugged sandstone escarpments, spinifex grasses predominate with occasional stunted shrubs. The country surrounding Alice Springs carries acacia scrub called 'mulga'. Where this community has been severely disturbed it is replaced by spinifex. There are some 180 different families of vascular plants in the Northern Territory, with over 3,000 species. However little of the area has been well studied and future exploration will add to our knowledge, especially in the central and northern portions of the Territory for which there are no published floras.

Water

The Northern Territory Government provides water and sewerage facilities in four of the five major centres—Darwin, Alice Springs, Katherine and Tennant Creek. In the other major centre, Nhulunbuy, the mining company North Australian Bauxite Company provides those services. Facilities are also provided for numerous Aboriginal communities and all smaller gazetted towns such as Pine Creek, Mataranka, Elliott and Finke. Facilities for the new Yulara Tourist Village near Uluru (Ayers Rock) are provided by the Yulara Corporation, and in Jabiru they are provided by the Jabiru Town Development Authority.

Darwin is served by the Darwin River Dam, situated some 70 kilometres from the city. The rockfill dam was completed in 1972. The dam is 30 metres high with a crest length of 564 metres, has an active storage of 230 million cubic metres and a safe draft of 90 megalitres a day. Studies are also being carried out to identify future sources to meet the growing needs of the Darwin region.

Katherine and the Tindal RAAF Base are supplied with treated water from the Katherine River. This water is blended with bore water to enhance the quality and to conserve the limited river supply in the dry season.

Alice Springs, Tennant Creek and all other towns and communities are supplied by bores from groundwater sources. Alice Springs has twenty production bores at Roe Creek. Tennant Creek has ten at Kelly Well and three at Cabbage Gum.

Soil conservation

The Conservation Commission of the Northern Territory administers soil conservation and control legislation, undertakes resource inventories to assess land capabilities and conducts soil erosion works on behalf of government and private sectors.

Population

The population of the Northern Territory at 30 June 1988, was 156,000 persons. For further information, *see* Chapter 6, Demography.

Aboriginal Affairs

Policy

The Government is committed to policies of Aboriginal self-management at all levels. Involvement of Aboriginals in delivery and planning programs, and in all stages of the development and implementation of policy is paramount.

The basis of the Government's approach is to secure access to government services for Aboriginals equal to that accorded other Australian citizens, together with additional services appropriate to Aboriginals' state of disadvantage, and in recognition of a community obligation deriving from Aboriginals' past dispossession and dispersal.

The long term objective is to achieve a situation of justice and equality where Aboriginal people have sufficient economic and social independence to enjoy their rights as Australian citizens.

Legal status

As Australian citizens, Aboriginals are entitled to equality before the law. For the purpose of administering various programs designed to benefit Aboriginals, the Department of Aboriginal Affairs and other Commonwealth Government departments and agencies define an 'Aboriginal' or 'Torres Strait Islander' as a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives.

Land and land rights

Aboriginal people who are able to prove strong traditional links with unalienated Crown land in the Northern Territory may make a claim before the Aboriginal Land Commissioner, a judge of the Northern Territory Supreme Court. The *Aboriginal Land Rights (Northern Territory) Act 1976* requires the Land Commissioner, in hearing a claim, to consider a number of matters in addition to traditional ownership before making a recommendation to the Minister for Aboriginal Affairs. The Minister can then accept or reject the Aboriginal Land Commissioner's recommendations.

Minerals on Aboriginal land remain the property of the Crown. The Aboriginal Land Rights Act provides that mineral exploration can only proceed with the consent of the appropriate land council, which in turn must abide by the wishes of the traditional Aboriginal owners of the area concerned. Pre-existing mining interests were exempt from this requirement. In all cases where there is disagreement on terms and conditions, the Minister for Aboriginal Affairs is able to appoint an arbitrator.

Royalties from mining on Aboriginal land are paid into an Aboriginals Benefit Trust Account and are distributed to pay administrative expenses of land councils, to communities affected by mineral developments and, on the recommendation of an advisory committee, to Aboriginal communities of the Northern Territory generally. Control of uranium mining has been reserved by the Commonwealth and special arrangements have been made between the Commonwealth and the Northern Territory Governments in relation to payments in lieu of royalties.

In August 1985, the Commonwealth Government announced an intention to amend the Aboriginal Land Rights Act on the basis of a preferred National Land Rights Model which the Government would like to see adopted in all States. This model proposes land claims to unalienated Crown land on the basis of traditional entitlement, historical association, long-term occupation and to meet specific needs. It would confer substantial rights in relation to mining on Aboriginal land but there would be no veto on exploration or mining.

Aboriginal communities are also being assisted to purchase land on the open market. The Aboriginal Development Commission, established in 1980, assists Aboriginal and Torres Strait Islander communities, groups and individuals to acquire land for a variety of purposes, engage in business enterprises, obtain finance for housing and other personal needs, and to receive training where necessary.

Agreements are also being sought with the Northern Territory and Western Australian Governments by the Commonwealth for the excision of community living areas on pastoral properties. Such excisions will fulfill the land needs of Aboriginal groups who do not have other means of achieving secure land tenure.

Community services and affairs

Government policy in the administration of Aboriginal affairs is to encourage State and Commonwealth departments and instrumentalities to provide services to Aboriginal Australians as to other Australian citizens and to take measures to ensure that these services are appropriate, accessible and reflect the variety of Aboriginal life styles.

Special programs for Aboriginals

Attention is being given to changing the institutional character of Aboriginal communities in the Northern Territory. Assistance is designed to encourage and strengthen the capacity of Aboriginals to manage their own affairs, to increase their economic independence, and to reduce social handicaps facing them.

Government policy is to provide Aboriginal primary school children in Aboriginal communities with education in their own language as far as practicable. Bilingual education programs initiated in Northern Territory Aboriginal communities in 1973 now operate at 21 schools, using 17 Aboriginal languages. Aboriginal independent community schools, supported by the Government, also operate bilingual education programs.

Land Tenure

As at 21 October 1989, 57,518 km^2 were held under freehold title; 724,661 km^2 under leasehold; 463,448 were Aboriginal freehold (this figure includes land granted under the *Aboriginal Land Rights (NT) Act 1976* and land which has since been claimed and over which title has been granted); and 100,573 km^2 unalienated. Land rent collected for the year 1988–89 amounted to $484,000.

Following the report of the Aboriginal Land Rights Commissioner in April 1974, the Commonwealth Government introduced the *Aboriginal Land Rights (NT) Act 1976*. This Act which commenced on Australia Day, 26 January 1977, gave traditional Aboriginals inalienable freehold title to former Aboriginal reserves and some other land, amounting to approximately 19 per cent of the Northern Territory, and provided a procedure for them to claim title to other areas of unalienated Crown Land.

With the commencement of the *Crown Lands Amendment Act (No. 3) 1980* most existing leases in the Territory were automatically converted to freehold tenure making it the rule rather than the exception. Most pastoral leases and all special purposes leases were excluded from automatic freeholding.

Additional amendments to the Crown Lands Act were introduced in 1983 which enable Pastoral Lease holders to apply to have their leases converted to perpetual tenure after certain criteria have been complied with.

The various forms of lease or licence of lands are described below.

Pastoral leases	—granted for periods not exceeding 50 years.
Perpetual pastoral leases	—granted in perpetuity and are only granted after certain criteria have been complied with.
Crown leases (Term)	—granted for a term of years, and in majority of cases can be converted to freehold when developed.
Crown leases (Perpetual)	—granted in perpetuity.
Special purposes leases	—granted for a term of years or in perpetuity for purposes other than pastoral, agricultural or mining, or for private residential purposes within a town.
Grazing licences	—granted to graze stock on Crown Lands for periods not exceeding one year.

Occupational licences	—granted for manufacturing, industrial or any prescribed purposes for periods not exceeding five years.
Miscellaneous licences	—granted for periods not exceeding one year.

Production

Pastoral and agricultural industries

Beef cattle production is the major rural industry in the Northern Territory. The beef industry has been characterised throughout its history by a slow rate of expansion due mainly to the quality of pastures in the top end of the Territory, periodic droughts in the Alice Springs district and remoteness from large domestic markets and other market infrastructure. Although the rate of expansion has been slow it has been persistent. Significant developments in the last two decades include: the establishment of a beef road system; expansion of market outlets, including live animal exports to Malaysia, Brunei and the Philippines; introduction of tropical cattle breeds in the northern regions; continued private investment in water supplies, fences and yards; and development of low cost aerial mustering techniques. In 1988–89 export licensed abattoirs operated in Tennant Creek, Katherine, and Batchelor, 100 kilometres south of Darwin. The former abattoir processes both cattle and horses while the latter two process both cattle and buffalo for export. The gross value of cattle production in 1988–89 was $130 million.

In the Darwin district, the cattle industry has continued to be augmented by the buffalo meat industry. Interest in buffalo control has received a significant boost due to the planned removal of all tuberculosis infected feral buffalo as part of a national campaign to eradicate bovine tuberculosis. Buffalo are slaughtered predominantly for the West German and Taiwanese markets. High prices are realised for export sales of quality breeder buffalo and small volumes of high quality grain-fed buffalo meat that is sold to domestic hotels and restaurants. The gross value of the buffalo industry in 1988–89 was in the order of $8 million.

Both the cattle and buffalo industries of the Northern Territory are experiencing dramatic changes in management practices due to the campaign to eradicate tuberculosis from the herds. The campaign requires all stock to be manageable to the extent where a 100 per cent efficient muster can be carried out. This has necessitated substantial investment in boundary and internal fencing as well as the destocking of unmanageable areas.

In 1980 the Agricultural Development and Marketing Authority (ADMA) was established to develop broadacre cropping industries to the point where export sales were viable. The ADMA developed six project farms in the Douglas–Daly basin, 250 kilometres from Darwin. These, plus other farms in the Katherine district provide a commercial environment for the development of the required levels of agronomic and economic efficiency. The main crops grown are sorghum, maize, sesame, soybean and mungbean. Grain handling depots have been established at Katherine and Douglas–Daly. The ADMA Act faces its sunset clause in 1990 and the grain marketing function has been transferred to a grower-controlled Grain Marketing Board. Gross value of production in 1988–89 was about $2 million. Production is mainly oriented to supplying local stockfeed requirements with small quantities of high valued grains sold interstate.

The horticultural industry in the Northern Territory has experienced very rapid expansion over the last five years. Value of production has increased from just over $200,000 in the early 1980s to in excess of $13 million in 1988–89. Very significant plantings of mangoes are in their first years of production and yields will continue to expand as trees mature. The value of mango production is predicted to be in excess of $10 million by 1990 and will continue to expand thereafter. Commercial trials of cashew production are being undertaken and it is expected that these will be the forerunner for a substantial industry. The top end of the Northern Territory has a natural advantage for horticultural production due to its capacity to produce some of the earliest maturing product in Australia for many lines of tropical fruit and vegetables. Significant volumes, mainly rockmelons are exported to Asian markets and potential for expansion has been identified.

NORTHERN TERRITORY: NUMBER, AREA AND LAND UTILISATION OF AGRICULTURAL ESTABLISHMENTS

					Total	
	Number of agricultural establishments	*Area used for crops (a)*	*Area under sown pastures and grasses*	*Balance of area (b)*	*Area*	*Percentage of NT land area (134,620,000 hectares)*
			—'000 hectares—			%
1982–83	287	3.4	43.9	75,202.2	75,249.5	55.9
1983–84	283	5.2	32.6	73,648.7	73,686.5	54.7
1984–85	274	5.9	45.3	74,116.8	74,168.0	55.1
1985–86	276	7.1	32.8	72,882.5	72,922.4	54.2
1986–87	290	11.7	51.1	71,175.2	71,238.0	52.9
1987–88	278	13.1	64.4	69,504.5	69,582.0	51.7

(a) Excludes duplication on account of area double cropped. (b) Used for grazing, lying idle, fallow, etc.

NORTHERN TERRITORY: AGRICULTURAL STATISTICS

	Unit	*1985–86*	*1986–87*	*1987–88*
Livestock numbers—				
Cattle		'000	1,457.5	1,439.3
Domesticated buffaloes	'000	12.9	15.0	15.6
Poultry	'000	229.0	239.0	237.5
Pigs		'000	3.1	7.0
Gross value of livestock slaughterings—				
Cattle and calves including domesticated buffaloes	$'000	111,091	102,700	80,786
Crops, Area—				
Grain Sorghum (grain and feed)	Hectares	3,197	4,795	5,023
Hay		Hectares	150	374
Tree fruit	Hectares	555	388	396
Bananas	Hectares	23	41	145
Vegetables	Hectares	270	454	549
Pastures and grasses (hay, seed, green feed)	Hectares	5,337	6,464	3,943
Total area used for crops (incl. pastures and grasses)	Hectares	12,481	21,363	17,004
Crops, Production—				
Sorghum for grain	Tonnes	2,867	6,863	6,803
Hay		Tonnes	49	1,232
Bananas	Tonnes	650	816	502
Pastures and grasses (hay, seed)	Tonnes	4,625	2,574	6,441
Gross value of crops—				
Sorghum for grain	$'000	487	1,098	1,261
Fruit	$'000	1,115	1,406	1,604
Vegetables	$'000	2,755	5,387	8,149
Pastures and grasses	$'000	596	255	689
Total crops (incl. pastures and grasses)	$'000	7,486	12,277	15,884
Gross value of agriculture	$'000	125,217	123,133	107,506

(a) Excludes pigs, poultry, milk and eggs.

Mining

Northern Territory mining establishments have continued to increase from 1983. One of the main factors is the development of gold mining ventures in the Tennant Creek, Hayes Creek, Pine Creek, Tanami Desert and Alice Springs areas.

The principal mining areas are the Alligator Rivers Region for uranium; Gove Peninsula for bauxite/alumina production; Groote Eylandt for manganese; Tennant Creek for copper and gold and Pine Creek for gold.

NORTHERN TERRITORY: MINING ESTABLISHMENTS

		1985–86	*1986–87*	*1987–88*
Establishments operating end of June	No.	26	33	37
Average employment over whole year—persons *(a)*	No.	1,903	2,128	2,188
Wages and salaries*(b)*	$m	57.7	70.2	80.2
Turnover	$m	615.5	826.9	1,063.9
Opening stocks at 30 June	$m	153.7	208.0	277.2
Closing stocks at 30 June	$m	184.2	286.9	293.9
Purchases, transfers in and selected expenses	$m	165.5	194.7	214.9
Value added *(c)*	$m	480.5	711.2	865.8
Fixed capital expenditure *(d)*	$m	n.a.	n.a.	153.8

(a) Includes working proprietors. *(b)* Excludes amounts drawn by working proprietors. *(c)* Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. Commencing with 1978–79, 'rent, leasing and hiring revenue' and 'rent, leasing and hiring expenses' have been included in the calculation of value added and its components 'turnover' and 'purchases, transfers in and selected expenses'. *(d)* Outlay on fixed tangible assets less disposals.

The Department of Mines and Energy encourages and assists the development of an efficient mining and processing industry throughout the Northern Territory. Through six divisions, the Department administers relevant legislation and provides a wide range of services.

Offshore petroleum resources

The development of offshore petroleum resources is set to change the entire progress and development of the Northern Territory.

BHP Petroleum, which is putting 50 per cent of its Australian exploration effort into the search for oil in the Timor Sea, recently doubled production from the Jabiru venture with the addition of another subsea well and by modifying facilities. Production is now about 40,000 barrels per day.

The Timor Sea is Australia's most promising offshore area, and the increasing activity is heralding a substantial growth in production over the next couple of years. Expenditure on offshore exploration and development in 1988 reached a record of $200 million, double the amount spent in the previous year. Geophysical activities were subdued in 1988 (2,251 km as against 15,301 km in 1987).

Forestry

Forestry activities in the Northern Territory commenced in 1959 under the Forestry and Timber Bureau; later a State-type service was developed under the Department of the Northern Territory.

In July 1978, with the granting of self-government, forestry became the responsibility of the Territory Parks and Wildlife Commission, now the Conservation Commission of the Northern Territory.

The unit was responsible for the development of an urban beautification and urban planting program until 1988. Since then it has been responsible for advisory and research services to plantation and native forest silviculture and extension advice ranging from outstanding ameliorative plantings to rehabilitation.

The Plantation Forestry section is based on earlier plantings of cypress pine and subsequent plantings of *Pinus caribeae*. These plantations on Melville Island were handed over to a Tiwi Aboriginal owned company, Melville Forest Products Pty Ltd in 1986. First rotation cropping is expected in 2005. Current production of poles and bark mulch derives from thinnings.

In its conservation role, the Conservation Commission has given emphasis to fire and ecological studies throughout the Territory together with seed collection, testing and propagation, and gene pool conservation of rare or unique species.

Fishing

Seafood landings in the Northern Territory for the 1988–89 financial year were 6,430.1 tonnes with an estimated value of $29.3 million. Prawn landings continue to dominate the industry with 3,360.1 tonnes being landed having an estimated value of $22.6 million. Barramundi remains the second most important species harvested followed by mud crab. These two species accounted for 613.0 tonnes and 143.4 tonnes of landings with estimated values of $2.2 million and $0.88 million respectively. The success of the dropline fishery and establishment of markets for fresh fish has also produced substantial increases in the landings of reef fish.

So as to prevent over-exploitation and maintain the long term viability of the industry, strict management measures are in force for the prawn, barramundi and mud crab fisheries. Major reviews of the barramundi and mud crab fisheries were undertaken during 1988 and 1989 with a view to the implementation of formal management plans in 1990.

Foreign fishing arrangements entered into by the Commonwealth in 1988–89 provided for Thai, Taiwanese and Chinese vessels to operate in the north and north-west waters of Australia. These agreements allow for a total quota of 19,650 tonnes of demersal trawl fish to be taken by 16 stern trawlers and 36 pairs of trawlers.

NORTHERN TERRITORY: PRINCIPAL FISHERIES

		1983–84	*1984–85*	*1985–86*	*1986–87*	*1987–88*	*p1988–89*
Prawns—							
Estimated gross weight of prawn catch	Tonnes	2,462	2,154	3,302	3,481	3,880	3,361
Gross value of prawns	$'000	17,587	13,837	24,661	31,145	38,859	22,546
Fish—							
Estimated live weight of fish catch	Tonnes	1,564	1,784	2,523	2,550	2,576	2,886
Gross value of fish	$'000	2,584	2,800	3,973	4,393	4,852	5,722

Secondary industries

The development of secondary industries in the Northern Territory has been largely based on demand from local markets, processing of primary production for exports and including the processing of mined ores and beef and exports in the mining and construction industries.

The isolation of the Northern Territory from the major population areas of Australia and resultant high transportation costs has made other than local market expansion difficult, but this is changing.

Industrial expansion will be small while industry is limited to local markets, but determined efforts are being made to take advantage of the proximity of Darwin to rapidly expanding South-East Asian markets. In the longer term secondary industry will be largely export based.

secondary courses and two residential colleges for Aboriginal students. There are also 18 government schools in Aboriginal communities that offer post-primary courses and 6 mission schools with post-primary programs.

Teaching staff are provided by the Northern Territory Teaching Service and qualified applicants are recruited from all parts of Australia. An increasing number of teachers with qualifications obtained from the Northern Territory University are also entering the Northern Territory Teaching Service.

With the exception of Year 12 level, where most students are assessed by the Senior Secondary Assessment Board of South Australia, all aspects of curriculum, course accreditation and student assessment are the responsibility of the Northern Territory Board of Studies. The Board oversees the work of subject area committees in English, Languages other than English, Mathematics, Science, Computer Education, Social and Cultural Education, the Arts, Health and Physical Education, Technical Studies, Home Economics, Business Education and Career Education. There are also advisory committees on Early Childhood Education, Special Education, Education for the Gifted and Distance Education. Each committee is responsible for its subject area at all levels at which it is taught, from Transition to Year 12.

Subject area committees define the core of essential skills and understanding in which all students should gain competence and the educational experiences which they should have during their primary and junior secondary schooling. They also identify or develop Board approved curricula, which consist of those courses and materials which are regarded as the best available to assist schools in achieving the objectives specified in the core, as well as skills, understanding, content and experiences considered appropriate for extension beyond the core.

In addition to its responsibilities for curriculum development, the Board of Studies, through its committees and with support from the permanent staff of the Department's Curriculum and Assessment Branch, provides guidelines on the assessment of student performance, examples of assessment instruments and, in some subjects, moderation of student assessment. School English and Mathematics assessments at years 10 and 11 are fully moderated and school assessment in these subjects in Year 10 is augmented by an external assessment which contributes 30 per cent of a student's final score. Moderation is also gradually being extended to other subject areas. The Junior and Senior Secondary Studies Certificates are issued by the Northern Territory Board of Studies at Year 10 and Senior levels respectively.

The work of subject area committees is coordinated and supplemented by curriculum officers at central and regional levels and by a range of educational services.

The two Schools of the Air in the Northern Territory, one at Katherine and one at Alice Springs, have developed individual programs and provide correspondence and radio lessons for students in the years one to seven. One correspondence school caters for isolated secondary students. Aerial and road patrols are carried out regularly to provide teacher–student and parent contact.

Special schools are located in Alice Springs and Darwin for handicapped children. However, where appropriate, students with special needs are integrated into primary and secondary schools. Guidance and Special Education Advisory Services operate from the two regional offices in Alice Springs and Darwin.

A program of exchange between Indonesia and the Northern Territory is continuing in which up to four teachers from each country are exchanged for a school year, and eight high school students spend up to six months in each country. In addition, the Northern Territory Department of Education encourages school-organised excursions to Bali and other South-East Asian localities.

Aboriginal education

Many Northern Territory Aboriginals live away from town centres and their education is provided by schools in a variety of remote localities and communities, many of which were government or mission settlements in the past. Some are near townships or pastoral properties; others are outstations or homeland centres.

Requests to the Department of Education from homeland centres, to provide assistance with education, continue. In association with the Commonwealth Government, school buildings and educational services are being provided to an increasing number of remote locations. Small projects involving teachers in schools and curriculum staff continue to ensure appropriate methods and relevant courses to help overcome the difficulties faced by isolated outstation groups in their quest for education.

Government schools for Aboriginal children in out-of-town centres provide tuition at pre-school and primary school level.

Secondary aged students in the larger communities are being catered for by Community Education Centres, which provide also for young adult students through a growing number of TAFE accredited courses.

Bilingual education programs in Northern Territory schools in Aboriginal communities have attracted wide interest from within Australia and overseas. There are 21 schools offering bilingual programs in 17 languages to approximately 3,500 students. Many other schools include Aboriginal language and culture in the curriculum. Many school children are acquiring initial literacy skills in their own language.

Yirara College near Alice Springs caters for secondary-aged students from outlying centres which do not have a Community Education Centre or whose parents wish them to attend courses at an urban high school. Kormilda College in Darwin is now an independent school and is developing its own full secondary courses. While its enrolment policy is similar to Yirara, it also enrols a small number of non-Aboriginal students, either as day students or boarders.

Aboriginal children who wish to attend private boarding schools may attend Kormilda which has a 70 per cent Aboriginal enrolment or others such as St John's College in Darwin, St Philips College in Alice Springs, or interstate boarding schools.

Technical and Further Education—TAFE

Technical and further education services in the Northern Territory are provided by the Northern Territory University Institute of TAFE and the Department of Education through its Colleges.

The Department, through its Technology and Further Education Division services the TAFE Advisory Council which advises the Minister for Education on Territory-wide TAFE policy issues. The Council membership includes representatives of employer and employee organisations and Northern Territory TAFE institutions.

Alice Springs College of TAFE

The Alice Springs College of TAFE is a multi-sector, multi-campus institution which provides TAFE services within the Alice Springs and Barkly regions. It provides trade, post-trade, and other TAFE programs up to and including Associate Diplomas. The College is also the major Territory provider for all tourism and hospitality training.

Centre for Appropriate Technology

The Centre for Appropriate Technology is part of the Alice Springs College of TAFE and has a specific responsibility in the provision of technical training to traditionally oriented Aboriginal people in the Centre.

Katherine Rural College

Katherine Rural College provides education and training for the pastoral and agricultural industries. It offers a two-year, full-time residential course, leading to a Certificate in Rural Studies; intensive three-month long courses in basic stock-handling and station skills; and short courses in areas such as horse-handling, horse-shoeing, explosives, welding, farm mechanics, pregnancy diagnosis and artificial insemination of cattle. The College also works in cooperation with other TAFE institutions in the provision of more general TAFE programs in the Katherine area and in particular has responsibility for conducting pre-vocational trade training in the Katherine region.

Batchelor College

Batchelor College is a residential institution providing programs for Aboriginal people which lead in particular to teaching qualifications at advanced education and TAFE levels. The College also offers courses for Aboriginal adult educators and conducts courses related to community management, as well as providing bridging and access programs. The College is situated in the town of Batchelor.

NT Open College of TAFE

The Northern Territory Open College of TAFE is a distance education institution which opened in January 1987 and offers services through a network of education centres and through lecturers based in many communities. The College provides adult education and training programs up to and including certificate level. The College has particular expertise in the provision of pre-trade and access programs.

The NT Open College also includes the Territory Training Centre and the Adult Migrant Education Centre. These two centres are mainly Darwin-based but also offer courses in, respectively, pre-trade training and English to other areas of the Territory.

Northern Territory University—NTU

The Northern Territory University was established on 1 January 1989 through the amalgamation of the University College of the Northern Territory and the Darwin Institute of Technology. The University offers both higher education and technical and further education to meet its first priority of providing for the full spectrum of the tertiary educational and research needs of the Northern Territory. It is one of the first universities in Australia to incorporate technical and further education as an integral part of its structure. The student population of approximately 5,000 is fairly evenly divided between the two sectors.

Undergraduate and postgraduate programs are offered through the faculties of Arts, Business, Education and Science. It is envisaged that the Law School within the Faculty of Arts will become the Faculty of Law by 1991. The Institute of Technical and Further Education offers programs through to Associate Diploma level.

The University also offers continuing and professional education courses to the wider community.

The University currently operates on two sites, Myilly Point on the edge of the Darwin city centre and at Casuarina.

Master planners have been appointed and the progressive physical development of the tropical campus at Casuarina will result in the University being totally housed there following the closure of the Myilly Point campus in 1997.

Finance

The following table gives details of government revenue and outlays that have been identified as relating specifically to the performance of local or State-type functions in the Northern Territory from 1985–86 to 1987–88. Receipts collected in the Northern Territory from Australia-wide sources (e.g. income taxes, customs duties, etc.) and outlays in the

Northern Territory on items of a national character (e.g. defence, civil aviation and cash benefits paid to Northern Territory residents as part of national programs) are *not* included.

NORTHERN TERRITORY: OUTLAY AND REVENUE
($ million)

	1985–86	*1986–87*	*1987–88p*
Current outlays	889.4	959.7	1,027.5
General government final consumption expenditure		639.1	689.0
Interest payments	107.3	129.3	146.3
Subsidies paid:	69.4	59.0	95.6
To public trading enterprises	59.5	50.7	81.5
To other enterprises	9.9	8.3	14.1
Personal benefit payments	1.7	2.2	1.9
Current grants	71.9	74.1	60.7
Other current outlays	—	6.1	8.3
Capital outlays	347.1	319.4	210.9
Gross fixed capital expenditure	318.8	322.4	223.9
Expenditure on new fixed assets	331.6	350.5	226.9
Expenditure on secondhand fixed assets (net)		–12.8	–28.0
Increase in stocks	–2.5	–3.0	–0.6
Expenditure on land and intangible assets (net)		–20.3	–19.2
Capital grants to private sector and public financial enterprises		2.8	3.3
Net advances paid to the private sector		48.4	15.9
Revenue and grants received	1,014.6	1,078.4	1,142.5
Taxes, fees and fines	92.5	105.7	120.4
Net operating surpluses of public trading enterprises		9.5	6.2
Property income received	63.4	55.4	55.2
Other revenue	11.4	10.0	6.2
Grants from the Commonwealth Government		837.9	901.1
Financing transactions	221.8	200.8	96.0
Advances received	102.6	75.4	44.7
Net borrowing:	26.1	100.2	66.5
General government	27.0	101.6	61.1
Decrease in currency and deposits	76.4	14.0	–49.7
Increase in provisions	22.5	21.6	28.7
Increase in provisions for depreciation		21.9	23.7
Other	0.7	–2.0	1.0

THE AUSTRALIAN CAPITAL TERRITORY

General Description

The Constitution provides that the Seat of Government of the Commonwealth of Australia shall be in the State of New South Wales but distant not less than 160 kilometres from Sydney. After a number of alternative sites were considered, an area of 2,359 square kilometres, lying approximately 320 kilometres south-west of Sydney, was transferred to the Commonwealth as from 1 January 1911. A further 73 square kilometres at Jervis Bay was transferred as from 4 September 1915 and served as a port for the Territory until ACT self-government on 11 March 1989.

The total area of the Australian Capital Territory is 2,359 square kilometres. The forecast population for 30 June 1990 is 282,600, nearly all of whom live in Canberra, the National Capital.

Australian Capital Territory self-government

The Australian Capital Territory was established as a self-governing Territory by the *Australian Capital Territory (Self-Government) Act 1988* and related legislation. There is a Legislative Assembly of 17 members to make laws for the peace, order and good government of the Territory, and an Australian Capital Territory Executive consisting of a Chief Minister and three other ministers exercising the executive power. The Jervis Bay Territory remains under Commonwealth control although many services, for example teaching and land management, are provided by the ACT Government on a contract basis with the Commonwealth.

Under the legislation, the Commonwealth transferred most of its powers and responsibilities concerning the administration of the Territory to the new Territorial Government. The functions which were not transferred include responsibility for the ACT courts, policing functions, and the power for the ACT to determine its own electoral system and size of the Executive. A timetable was detailed in the self-government legislation for the progressive transfer of the courts and policing functions.

Elections for the first ACT Legislative Assembly took place in March 1989 and the formal transfer of power from the Commonwealth to the ACT Government followed on 11 May 1989 with the election by the Assembly of the Territory's first Chief Minister.

There is an ACT Government Service comprising the former ACT Administration component of the Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories, the former ACT Community and Health Service, the former ACT Schools Authority, and other agencies responsible for the provision of services to the ACT.

Health

Hospital services

Royal Canberra and Woden Valley hospitals are the major public hospitals in the ACT. Calvary Hospital and the Queen Elizabeth II Home for Mothers and Babies also function within the public hospital system.

The hospital system provides inpatient and outpatient services including medical, surgical, psychiatric, nursing and other professional support services.

The Ambulance Service operates from four ambulance stations and provides treatment and transport for emergencies and inter-hospital transfers.

Support services for the hospitals, including laundry, sterile instrument and surgical dressing supply, maintenance, purchasing and a central store are located at the Mitchell Health Services and Supply Centre.

The Central Health Laboratory is part of the hospital system and is located at Woden Valley Hospital.

Public health services

The Chief Health Officer is responsible for public health matters in the ACT and administers a number of public health services. These range from Radiation Safety and Pharmaceutical Services, management of the Analytical Laboratory and communicable and environmental disease control, to the Health Surveillance Service which monitors food standards (preparation and sale), water and air pollution, inspection of hotel accommodation and restaurants and general sanitation and disposal of solid wastes.

The John Curtin School of Medical Research is located in the Australian National University. One of the School's four divisions, the Division of Clinical Science, operates from the Woden Valley Hospital, as does the University of New South Wales' Centre for Chronic Disease and Disability.

Nursing training in the ACT is conducted at the University of Canberra on behalf of the ACT Government.

Community Services

Community health services

In the community health field the ACT Government operates health centres, a women's health service, child health clinics, a community nursing service, school dental and speech therapy services, a service for the treatment and counselling of people with an alcohol or drug addiction and a mental health counselling and treatment service (an inpatient mental health ward is located within the hospital system).

A range of programs is provided in health education and to cover special health needs such as for the elderly and the physically and intellectually handicapped.

Community welfare services

Community programs include general family casework, adoptions, emergency relief, migrant services, the Women's Information and Referral Centre, child day care, regional youth centres, grants-in-aid, support for elderly and disabled persons to remain at home, refuges for homeless persons, and the provision of community facilities.

The Office of the Youth Advocate has been established to address problems associated with the care and protection of children as set out in the *Children's Services Act, 1986*, particularly in relation to child abuse.

Correctional and remand services

Juvenile justice services which include the Quamby Youth Centre are provided for the detention of juvenile offenders and remandees.

A Remand Centre at Belconnen and a Community Services Order Scheme are also operated.

Housing

Building activity, both private and public, has continued to expand the stock of residential dwellings in the Australian Capital Territory. At June 1989 there were 23,651 occupied dwellings in the Central Canberra area, 21,185 in the Woden Valley and Weston Creek area, 27,765 in the Belconnen area, 18,733 in the Tuggeranong area, and 290 elsewhere in the Australian Capital Territory. The total number of occupied dwellings in the Australian Capital Territory at June 1989 was 91,624.

Although there has been considerable increase in the proportion of home ownership in the Australian Capital Territory since 1954, the demand for public housing has continued to increase. Rental accommodation and housing finance are now allocated on a means tested basis. There has been continuing expansion of public housing stock through annual building programs and the purchase of established housing. Stock is expected to increase by 280 in 1989–90, bringing the total number of public dwellings to 12,376. For further information *see* Chapter 20, Housing and Construction.

Parks and Conservation

The ACT Parks and Conservation Service manages open space, natural and cultural resources and recreation facilities throughout the ACT.

Urban parks

Since its establishment, Canberra has been developed as a garden city. The area of developed landscape increased by 3.8 per cent in 1988–89 to 5,100 hectares. Management of urban areas included newly developed areas in the town of Tuggeranong, and redevelopment of ageing landscapes in the older suburbs and surrounds of Parliament House.

The Yarralumla Nursery, established in 1913, propagates trees and shrubs for use in development projects, as replacements in landscape maintenance and for issue to buyers of new home sites. In 1986–87, 481,270 trees and shrubs and 34,444 annual plants were produced.

The Horticultural Services Unit provides advice and tests turf, grasses, trees, shrubs and new products and techniques for application in the Canberra environment.

Floriade

Floriade, Canberra's Spring Festival, has taken place each year since its inception in the Bicentennial year. It consists of floral displays and a theatre and arts program.

Namadgi National Park

In June 1984, the former Gudgenby Nature Reserve (62,000 hectares) and part of the Cotter River Catchment (32,000 hectares) were combined to form a new national park. It is known as Namadgi and covers 40 per cent of the Australian Capital Territory. Namadgi shares a common boundary with the magnificent Kosciusko National Park (520,000 hectares) and other reserves in neighbouring New South Wales.

The topography and landscapes of Namadgi National Park and consequently, the plant and animal communities, are extremely varied and include the only parts of the Territory with a sub-alpine climate. Habitat ranges from grassland on the valley floor through woodland and mountain forest to sphagnum bogs, heath, swamp and alpine woodland. Several high peaks rise to over 1,800 metres above sea level and include Mount Bimberi, the highest peak in the Australian Capital Territory.

Tidbinbilla Nature Reserve

The Tidbinbilla Nature Reserve (5,515 hectares) is located 43 kilometres south-west of Canberra. The Reserve includes much of the Tidbinbilla Valley, which ranges from 762 metres above sea level to 1,561 metres at Tidbinbilla Peak, the highest of the Tidbinbilla Range which forms the western boundary of the Reserve. As a consequence of the valley topography, many habitats are represented and plant and animal wildlife is diverse. A system of wildlife enclosures and waterfowl ponds, 30 kilometres of nature trails and a comprehensive information service are provided for approximately 120,000 visitors a year.

Canberra Nature Park

Canberra Nature Park (approximately 4,600 hectares) is made up of the numerous hills and ridges in the urban area of Canberra. These hills were an integral part of the original Walter Burley Griffin design for the 'bush' capital. There are over 20 separate areas of Canberra Nature Park each with their own character and values. The more prominent areas include Black Mountain, Mount Ainslie, Red Hill and Mount Taylor. Canberra Nature Park is very important for education and in providing wildlife habitats and corridors throughout the urban area.

Black Mountain Reserve

The Black Mountain Reserve (521 hectares), adjacent to Lake Burley Griffin, is a significant focal point in the Canberra landscape and an essential component of the 'mountain and lake' concept of the Canberra scene. Black Mountain Reserve is unique in its setting within the inner boundary of a national capital. In addition to broad scale scenic attributes, the Reserve has a varied complex of flora and fauna and is used extensively for recreation and nature study.

Murrumbidgee River Corridor

A corridor of land comprising 7,000 hectares along the Murrumbidgee River in the ACT is managed as a unit within the ACT Nature Reserve system. As well as areas of nature conservation the corridor contains seven major recreation areas which attract over 700,000 visitors per annum for picnicking, canoeing, swimming, fishing and walking.

The corridor includes habitat for rare plants and animals and cultural features including the Lanyon historic homestead and records of aboriginal occupation.

Jervis Bay Nature Reserve

The Jervis Bay Nature Reserve occupies two-thirds (4,169 hectares) of the Commonwealth Territory of Jervis Bay which lies on the south-east coast of Australia. The Reserve is characterised by a substantially natural landscape and outstanding coastal scenery, high cliffs, ocean and bay beaches, sand dunes, woodland, forest and heath. Bowen Island is now gazetted as part of the Reserve. Parts of the unspoilt marine environment of Jervis Bay and its foreshores are managed in sympathy with the Nature Reserve. Camping facilities are provided and are designed to complement the natural values of the area which attracts over 700,000 visitors annually.

The aims for all nature reserves in the Australian Capital Territory and Territory of Jervis Bay (which is managed by ACT Parks and Conservation on behalf of the Jervis Bay Territory Administration) are to:

- maintain natural ecosystems and landscapes and protect sites of prehistoric and historic significance; and
- provide opportunities for recreational, scientific and educational use of these resources consistent with their protection.

Wildlife

Extensive surveys of the native fauna and flora of the ACT, and Jervis Bay Territory on behalf of the Commonwealth, are continuing. Information obtained is used to appropriately manage the wildlife of the two Territories. For example, collaborative research by ACT Parks and Conservation Service staff and scientists from CSIRO have developed techniques for the control of feral pigs in Namadgi National Park.

The eastern bristle bird and ground parrot are two endangered species of birds which occur in the Jervis Bay area. Surveys have established their distributions and abundance in relation to habitat and have shown that bush fires are important in providing the optimum habitat for their breeding and survival. Future studies will be aimed at establishing the most appropriate frequency and intensity of fires and other management practices for the long term conservation of these species.

Land care

The treatment of land degradation and prevention of future damage are the aim of ACT land care programs. Some of the most serious gully erosion has originated in the last century and is being treated. New development guidelines help prevent soil loss during urban development. Tree protection and soil and pasture management are being brought together under land care programs for the ACT which are being developed in cooperation with programs for neighbouring NSW.

The Lake Burley Griffin Catchment Protection Scheme, a collaborative works program between the ACT Government, the State of New South Wales and landholders, is continuing with restoration measures being directed to the Molonglo River catchment.

Soil conservation activities in the Australian Capital Territory are expanding to include other aspects of land degradation and a more holistic approach to the conservation of the Territories' land resource is being taken.

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Library Services

Comprehensive library services are available to residents of the Territory through the ACT Library Service. A network of regional libraries is being developed modelled on State Library systems. A mobile library services the rural areas of Hall and Tharwa, retirement villages and nursing homes.

Other services include a home library service, material on spoken word cassettes, Braille material, large print material and material in languages other than English.

Land Tenure

Reference has been made in earlier issues of the *Year Book* to the general conditions of land tenure in the Australian Capital Territory and to the area of alienated and leased land.

The freehold estate of all land in the Australian Capital Territory has been acquired by, and is vested in, the Crown. The *Seat of Government (Administration) Act 1910* prevents the sale or disposal of such Crown land for any estate in freehold, except in the case of a contract that preceded the Act.

On 11 May 1989, self-government for the Australian Capital Territory was implemented. Section 27 of the *ACT (Planning and Land Management) Act 1988* provides for the declaration of specified areas of land in the Territory as National land provided the land is intended to be used by or on behalf of the Commonwealth. All other land in the Territory not so declared is to be Territorial land.

The Commonwealth retains ownership of the land in the Territory but pursuant to section 29 of the Act, the Executive of the ACT Government has responsibility for the management of Territory land and the right to grant, dispose of, acquire, hold and administer estates in Territory land.

The Commonwealth retains all rights in National land.

Leases of land for residential, commercial and other purposes in the city area are usually granted under the *City Area Leases Act 1936*. Some special leases for other purposes (such as diplomatic sites or churches) are granted under the *Leases (Special Purposes) Act 1925* or the *Leases Act 1918* if for a short term land use. Some areas outside the city area are leased for agriculture under the *Leases Act 1918*. These include areas not immediately required for development in the short or medium term.

Forestry

Forestry field operations in the Australian Capital Territory began in 1915 with the planting of pines on the denuded slopes of Mount Stromlo to arrest soil erosion and to improve the visual quality of the landscape. In 1926, a program for development of commercial forests was approved following a comprehensive review of the Territory's potential for forest development. Major reviews of this program were made in 1932, 1954, 1967 and 1984; always, however, retaining the basic policy of systematic conservation and development. Forestry operations, including fire protection measures, extend to some 13,000 hectares of natural forest in the Cotter catchment and adjacent areas and the Kowen region. The more productive stands in these areas were harvested extensively to provide timber for Canberra's post-war expansion and were subsequently treated to promote regeneration and protect the quality of water harvested.

Forest management in the Australian Capital Territory has been formulated to cater not only for commercial timber production but also to provide recreation facilities, an attractive visual environment for the national capital, to protect the water supply catchment and for appropriate wildlife conservation.

The forest authority is charged with the management of some 25,000 hectares of land in the Australian Capital Territory. As at 30 June 1989, the total area of coniferous plantations in the Australian Capital Territory and Jervis Bay was 16,200 hectares. Of 115 hectares at Jervis Bay, the majority consisted of radiata pine and slash pine. The plantations in the Australian Capital Territory consisted mainly of radiata pine.

In 1988–89 there was no commercial production of hardwood timber from the Australian Capital Territory or Jervis Bay. The volume of softwood cut was 181,000 cubic metres. The total value of this unprocessed timber unloaded at the mill (mill door value) was $9.3 million.

Agriculture

The ACT is a part of national programs to control and prevent animal and plant disease. Agricultural production is confined primarily to sheep and beef cattle with 116,851 sheep and 12,422 cattle on 227 rural leases and on agisted Territorial lands. The ACT abattoir serves the southern tablelands region.

Fresh fruit and vegetables are imported to Canberra through wholesale fruit and vegetable markets, handling 156,000 tonnes per year. Inspection of wholesale and retail produce outlets and of ACT apiaries and fruit trees are conducted to maintain product quality and to prevent spread of plant and apiary diseases and pests.

Communications

There are ten radio broadcasting stations currently in the Territory; 2CN, 2CY and ABS-FM of the national broadcasting system, four commercial stations, 2CA, 2CC, FM104.7 and KIX-FM, and three public stations, 2XX, 1PPP and 2 SSS-FM.

Since March 1989, two additional commercial television stations began broadcasting on the VHF frequency. They are WIN-TV based in Wollongong and Prime based in Orange. Their services add to those provided by ABC Television, Capital Television and the Special Broadcasting Service.

Transport

Public transport is provided by an ACT Government owned bus network and privately owned taxis. The bus service is based on a feeder network and an express intertown system focusing on interchanges at the City Centre and two suburban nodes (Woden and Belconnen). A third bus station is under construction at Tuggeranong. Suburban passengers are guaranteed express intertown travel, and are given a variety of inter-suburb travel options at each interchange.

The intertown service, route 333, operates every 5 minutes in daylight hours, Monday to Friday, and carries up to 16,000 passengers on a busy day, one of Australia's busiest single bus routes.

In peak periods 402 buses are required to maintain services.

Education

The *Education Act 1937* provides for the compulsory attendance at school of children between the ages of six and fifteen years. Government schools are administered by the ACT Department of Education under the provisions of the *Schools Authority Act 1976*. The Act also provides for school boards which are representative of teachers, parents and the community.

The ACT Schools Accrediting Agency accredits courses and administers student assessment procedures for Years 11 and 12.

In July 1989 there were 15 government high schools in the Australian Capital Territory and eight secondary colleges. High schools cater for Years 7 to 10 and secondary colleges for Years 11 and 12. In addition, there is a Year 9 to 12 school and a kindergarten to-Year 10 school. Secondary enrolments totalled 18,096 full-time students and 14 part-time students.

Another 66 government schools provide courses at primary level, three of these being in rural districts and one at Jervis Bay, which is administered by the ACT Department of Education on behalf of the Commonwealth. The number of students enrolled in government primary schools at July 1989 was 22,188.

The 79 government pre schools provide facilities for 3,848 children aged four before 30 April of each year. Full-time pre schools operate eight half-day sessions per week.

Educational guidance and counselling services are provided by an educational guidance centre and school counsellors allocated to each school.

There are five government special schools in the Australian Capital Territory with a total enrolment of 476 students in July 1989. These schools cater for pre-school, primary and secondary school-aged students who are physically or mentally handicapped.

Mildly intellectually handicapped children are served by learning centres attached to fifteen primary schools and seven high schools. Special units for deaf children are available at three schools. Blind children also receive specialised support.

Children below school age with learning, sight or hearing problems receive assistance from specially-trained staff at preschools, at the Therapy Centre and in their homes. Fifteen primary schools cater for children of junior primary age who are unable to adjust to a normal class situation. Two schools cater for children with language and communication disorders.

Special classes for children of non-English speaking background are available at 59 primary schools, 16 high schools and 8 secondary colleges. Three Introductory English Centres (two for primary, one for secondary-aged students) cater for migrant or refugee children with little or no English. They attend for up to six months and then return to their neighbourhood school.

In July 1989 there were 23 non-government primary schools in Canberra, 8 offering both primary and secondary schooling and 6 schools with secondary grades only. There were 10,278 students enrolled in primary grades at non-government schools and 10,314 students in secondary grades.

Higher Education

Universities

The Australian National University was established by an Act of Parliament and is administered by a governing council. The Institute of Advanced Studies within the University is a centre of excellence in research and postgraduate training. It includes the John Curtin School of Medical Research, and Research Schools of Physical Sciences, Social Sciences, Pacific Studies, Chemistry, Biological Sciences and Earth Sciences. The Mount Stromlo and Siding Spring Observatories are part of the Institute of Advanced Studies. The Faculties carry out both undergraduate and postgraduate training and research, and comprise the Faculties of Arts, Asian Studies, Economics and Commerce, Law and Science. The total student enrolment in 1989 was 6,589. The University has established a number of academic centres.

The Canberra Institute of the Arts (CITA) was established in 1988 through the amalgamation of the Canberra School of Music and the Canberra School of Art. The Institute provides multi-level education and training in the visual and performing arts covered by the work of its two constituent schools. The work of the Institute ranges from community activities supporting the arts in Canberra to the provision of professional courses at levels up to degree and postgraduate. In recognition of its dual role CITA receives funding both from the Commonwealth and ACT Governments. The Institute has concluded an affiliation agreement with the Australian National University which is seen as a first step to amalgamation.

The University of Canberra, formerly the Canberra College of Advanced Education is administered by a governing council, constituted under an Act of Federal Parliament and offers courses in six schools--Applied Science, Communication, Education, Environmental Design, Information Sciences and Engineering, and Management. Courses have a professional or vocational orientation and lead to Bachelor, Master and Doctoral Degrees, and to Associate Diploma, Diploma and Graduate Diploma awards. There were 7,100 students enrolled in 1989. The University has set up several research centres.

Continuing Education

The Centre for Continuing Education is part of the Australian National University and it aims to foster a learning society by enriching the contacts between the University and the community to their mutual advantage. The Centre offers a wide range of courses in the natural and social sciences and the humanities.

Technical and Further Education

The ACT Institute of TAFE is a multi-campus, multi-discipline educational system catering for the vocational, educational and training needs of the ACT and surrounding region.

The Institute is a Statutory Authority operating under ACT legislation and headed by an Executive Director. It also has an Advisory Committee representative of private and public industry, unions, community, teaching and student bodies.

The Education Delivery Program encompasses the teaching operations of TAFE, and comprises nine teaching schools in the broad discipline areas of Applied Design, Applied Science, Community Education, Construction Studies, Electrical and Electronic Studies, Engineering, General Studies, Management and Business Studies and Tourism and Hospitality. This Program is supported by specialised units such as curriculum, educational computing and corporate services.

In 1989 some 18,000 students enrolled in a range of some 300 courses, of varying duration, offered on a full-time or part-time basis at trade, certificate and associate diploma levels and in preparatory, remedial and non-vocational areas.

The Institute has substantially developed its fee for service courses and other related entrepreneurial activities. These are being delivered by the Teaching Schools and Units, two specialised centres and the subsidiary private company ACTAID. In December 1988, ACTAID was established to conduct entrepreneurial activities to generate funds for the Institute as well as making TAFE services more widely available to the ACT community.

Vocational Training

A milestone for vocational training in the Territory occurred with the passing by the ACT Legislative Assembly on 27 June 1989 of the *Vocational Training Act 1989*, which provides a framework for the development and improvement of vocational training in the Territory.

In particular, the legislation provided for the establishment of the ACT Vocational Training Authority, which commenced operations on 1 September 1989. The Authority replaces the ACT Apprenticeship Board. Its membership is tripartite with equal employer, union and government representation.

The Vocational Training Authority will promote training in both the public and the private sectors, regulate vocational training (including apprenticeships and traineeships), and advise the ACT Government on training issues in consultation with employers, unions, industry training councils, and training providers including TAFE.

Tourism

Tourism is a key element in the economy, sustaining employment for some 8,000 people and generating about $450 million revenue a year--more than $1,500 for every man, woman and child of the resident population.

The official tourist servicing and marketing operation in the ACT is provided by the Canberra Tourism Development Bureau. The Bureau's main office is located in the Jolimont Centre in the city and it also operates a new Visitor Information Centre on the inbound lane of Northbourne Avenue. Both offices are open seven days a week. The Bureau is represented by branch offices in Sydney and Melbourne.

The major new attraction in Canberra is Parliament House. It is a superb drawcard for Canberra with more than 3 million visitors passing through its doors in the past two years since its opening. It is playing a significant role in boosting the value of tourism to the local economy.

The National Science and Technology Centre and the new Parliament House round off Canberra's most important decade of tourism development, a decade which has brought forth not only the two other significant newcomers to the Parliamentary Triangle--the Australian National Gallery and the High Court--but also the National Film and Sound Archive, the Australian Institute of Sport, Cockington Green--the most successful private enterprise attraction--and overlooking it all, Telecom Tower.

To keep pace with its multiplying attractions, Canberra's accommodation industry has also flourished. More than a thousand new hotel and motel rooms have been added between 1985 and 1989--a 40 per cent increase, ranging from family budget to luxurious.

The Hyatt Hotel belongs in the latter category; a unique redevelopment of the famous old hotel that became the alternative meeting place to Parliament House in the early days of the 'bush capital'.

The 300 room Capital Park Royal opened in 1989 along with its neighbour, the National Convention Centre. The National Convention Centre has a seating capacity of 2,500 in the Royal Theatre, 3,000 in the Exhibition Hall and 800 in the Grand Ballroom. Its arrival heralds a new era for conferences and conventions in the National capital.

Industry

The aims of industry development in the ACT are the expansion of private sector investment and employment opportunities.

ACT employment growth for the past ten years has averaged 4.2 per cent per annum and is forecast to average about 2.8 per cent per annum up until 1995. The private sector accounts for nearly 50 per cent of all ACT employment.

The major industry sectors in the ACT are public administration and defence, building and construction, finance, property and business services, entertainment, recreation and personal services (including tourism), light manufacturing, wholesaling, retailing and printing.

Over recent years there has been little growth in public sector employment in the ACT, mainly because of reductions in the staffing levels of public service departments. One of the most significant growth industries is the finance, property and business services which encompasses insurance, accounting, banking, superannuation firms, and engineering and computing consultants.

The building and construction industry underwent a decline in activity following the completion of the new Parliament House. However, a number of major public sector construction projects are expected to make a major contribution to the level of building activity in the longer term, notably the Civic Square Redevelopment.

The entertainment, recreation and personal services industry provides a wide range of services to the local community in association with sporting activities, restaurants, clubs, and other personal services. This industry is also significant as it covers most of the activities associated with tourism which is a major growth sector. Growth in this industry is dependent on population growth and changes in the demographic structure of the population.

The wholesaling and retailing industry is largely concerned with the provision of retailing in developing residential areas such as Tuggeranong and in the redevelopment and expansion of existing retail centres such as City Centre and Belconnen.

Opportunities for further growth are being examined in targetted industry sectors such as advanced technology and the printing industry which is the largest manufacturing industry in the ACT.

The ACT has a number of competitive advantages which attract firms including a well-educated workforce, expertise in research-intensive and design based industries, relatively cheap land, a quality lifestyle and environment and access to Commonwealth Government decision makers.

Broad-based projects which are likely to have an impact on the future development of the ACT as a place to live, work and do business, are being examined. The ACT is actively participating in consideration of the Very Fast Train project linking Melbourne and Sydney, as it offers an opportunity for industry expansion in the ACT.

Employment

ACT employment-related programs tend to complement Commonwealth labour market initiatives, although since the advent of self-government emphasis is being placed on identifying particular ACT needs. Recent initiatives include:

- the setting up of a Ministerial Advisory Council on Employment, to advise the Government on all employment-related matters within a social justice framework; and
- the funding of a Youth Outreach Workers Program intended to seek out long-term unemployed young people and encourage them into the workforce through a personalised support and jobs planning service.

Other ongoing employment-related programs in the ACT include:

- a New Enterprise Initiative Scheme which provides training and grants to unemployed people with a capacity to develop and conduct a small business; and
- a Tradeswomen on the Move Project. This is aimed at increasing access for girls and women to non-traditional trades and occupations.

Government Receipts and Outlays

Until the granting of self-government to the ACT (11 May 1989), all government expenditure in relation to the ACT was funded by the Commonwealth. The following table is a summary of that expenditure.

It should be noted that some of the outlays relate to National activities undertaken in Canberra, rather than expenditure on Territorial or Municipal functions. These expenditures include some of the costs of maintaining Commonwealth offices in Canberra as well as the costs of some functions (e.g. Courts, Canberra College of Advanced Education (now known as the University of Canberra)) which have not been transferred to the Territory. Thus the final item Net charge to Commonwealth Budget is an overstatement of the cost to the Commonwealth of performing State and Municipal functions in the ACT.

Year to year variations in outlays reflect accounting and administrations changes as well as changes in levels of activity.

Many of the items shown in the table are specialist terms defined in the ABS publication *Classifications Manual for Government Finance Statistics* (1217.0). Some particularly important definitional issues arise in relation to expenditure on land and Intangible Assets (item 23) and Property Income (item 33). Expenditure on land is the net result of the amount spent on the purchase of land less the value of sales of land. In the ACT the value of sales has always exceeded the value of purchases. These land transactions are excluded from the item Property Income which refers to such transactions as interest received and land rent received.

AUSTRALIAN CAPITAL TERRITORY: OUTLAY AND REVENUE
($ million)

	1985–86	*1986–87*	*1987–88*
Current outlays *(a)*	568.1	655.2	734.9
General government final consumption expenditure *(a)*		483.0	557.0
Interest payments	3.6	4.1	4.5
Subsidies paid	16.2	18.9	20.8
To public trading enterprises	16.2	18.9	20.8
To other enterprises	—	—	—
Personal benefit payments	12.5	15.5	1.1
Current grants	52.9	59.6	73.5
Grants to non-profit institutions	52.9	59.6	73.5
Capital outlays	10.9	176.8	151.8
Gross fixed capital expenditure	136.4	268.2	258.7
Expenditure on new fixed assets	223.6	268.2	262.4
Expenditure on secondhand fixed assets (net)		*(b)*–87.1	—
Increase in stocks	1.4	0.9	0.4
Expenditure on land and intangible assets (net)		–110.8	–90.5
Capital grants to private sector and public financial enterprises	2.6	2.5	1.3
Net advances paid to the private sector		–18.8	–13.3
Revenue and grants received	198.8	243.3	360.5
Taxes, fees and fines	145.8	180.7	247.3
Net operating surpluses of public trading enterprises		16.0	17.3
Interest received	30.7	33.9	38.2
Other revenue	6.2	11.5	21.9
Financing transactions	380.2	562.8	526.2
Net borrowing	5.5	4.7	2.0
General government	–0.1	–0.1	—
Public trading enterprises	5.6	4.7	2.0
Deposits received (net)•	–5.4	–1.9	–0.2
Increase in cash balance of private trust funds		–5.4	–1.9
Other	—	—	—
Decrease in investments	–1.6	–1.7	–9.6
Decrease in currency and deposits	–5.8	–3.7	–8.3
Increase in provisions	4.7	7.3	12.0
Increase in provisions for depreciation		4.7	6.3
Other	—	1.0	4.9
Net charge to Commonwealth budget *(c)*		384.3	522.0

(a) Excludes estimates of expenditure on Police services in the Australian Capital Territory. Information on the actual expenditure on these services is not available. *(b)* Negative expenditure due to sale of Belconnen Mall in this year. *(c)* This item is a partial measure of the net difference between revenues raised and expenditures made in the Australian Capital Territory because expenditures have been overstated by inclusion of outlays on Commonwealth offices and national works, and revenues understated by exclusion of income taxes, sales tax, etc. and excise duties levied in the Australian Capital Territory. This information it not separately available.

THE JERVIS BAY TERRITORY

The Jervis Bay Territory was acquired by the Commonwealth from New South Wales in 1915 under the Jervis Bay Territory Acceptance Act, to make provision for the Seat of Government in Canberra to have access to the sea. The Jervis Bay Territory is a Territory in its own right, to which ACT laws apply insofar as they are applicable.

The Territory has an area of about 7,360 hectares including about 800 hectares of territorial waters in Jervis Bay. In 1971, 4,118 hectares were declared as the Jervis Bay Nature Reserve under the *Public Parks Ordinance 1928* and in December 1985 the whole of Bowen Island (51 hectares) was declared a reserved area under the *Nature Conservation Ordinance 1980*. On 14 March 1987 the Government granted to the Wreck Bay Aboriginal community inalienable freehold title over 403 hectares.

Other land uses in the Territory include the Jervis Bay Village, the Royal Australian Naval College at HMAS *Creswell* and the RAN airfield. A number of blocks fronting Sussex Inlet have been leased for residential or holiday purposes; these include historic Christian's Minde, the site of the first European Settlement in the area, dating from 1880.

NORFOLK ISLAND

General Description

Norfolk Island, discovered by Captain Cook in 1774, is situated approximately in latitude 29°02′S, longitude 167°57′E. Its total area is approximately 3,455 hectares, the island being about 8 kilometres long and 5 kilometres wide. It is 1,676 kilometres from Sydney, 1,063 kilometres from Auckland and 772 kilometres from Noumea. The coastline, which is 32 kilometres long, consists of almost inaccessible cliffs rising from the waters edge, except at Kingston in the south and the landing place at Cascade on the northern side. The climate is equable, the average daily maximum temperature varying between 16°C and 28°C, and the average annual rainfall is 1,350 millimetres. The resident population is about 2,000.

The island served as a penal station from 1788 to 1814 and from 1825 to 1855. In 1856, 194 descendants of the *Bounty* mutineers were transferred from Pitcairn Island.

Administration

In 1856, the island was created a distinct and separate settlement under the jurisdiction of the Governor of New South Wales. In 1897 it was made a dependency under the Governor of that colony, and finally, by the passage of the *Norfolk Island Act 1913*, became a Territory of Australia.

In May 1978, the Government announced that it should try to develop for Norfolk Island a form of government involving the island's own elected representatives under which the necessary revenue could be raised by its own system of law. The *Norfolk Island Act 1979*, which was assented to on 30 May, established the framework for this objective. In broad terms, the Act equips Norfolk Island with responsible legislative and executive government to enable it to run its own affairs to the greatest practicable extent. Wide powers are exercised by the Norfolk Island Legislative Assembly and by an Executive Council, comprising the executive members of the Legislative Assembly who have ministerial-type responsibilities. The Act preserves the Commonwealth's responsibility for Norfolk Island as a Territory under its authority, with the Minister for the Arts, Sport, the Environment, Tourism and Territories as the responsible Minister; and indicates the Parliament's intention that consideration will be given to an extension of the powers of the Legislative Assembly and the political and administrative institutions of Norfolk Island within five years. In 1985 legislative and executive responsibility for a range of matters was formally transferred to the Norfolk Island Government. Consideration is being given to the transfer of further powers as part of an on-going process of devolution of responsibility to the local community.

The Office of the Administrator is financed from Commonwealth expenditure which amounted to $509,000 in 1988–89. A further $337,000 was provided by the Commonwealth during the year for the restoration and maintenance of historic structures and $300,000 towards the cost of water assurance schemes.

Economic Activity

The island's major economic activity is tourism. Primary production is not fully adequate for local needs and foodstuffs are imported from New Zealand and Australia.

Primary industries

The soil on the island is particularly fertile, the climate equable and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperate and semi-tropical products to be cultivated. However, the island's comparative isolation presents trading difficulties, and there is only very limited production of export crops.

Fish are in abundance and in the past a number of ventures have been formed to exploit this resource, but they have been short-lived, mainly because of the lack of a sheltered harbour. A modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. Owing to a marked scarcity of whales after 1961 the station was closed down.

A forestry program is being carried out to increase the resources of Norfolk Island Pine and to introduce suitable types of eucalypts.

Tourists

Regular air services to the island are available for those who seek a quiet holiday in surroundings of beauty and historic interest. At present, accommodation consists of flats and hotels as well as licensed and unlicensed guest houses. There were 28,891 tourist arrivals in 1988–89.

Employment

A large proportion of the population derives its income from various aspects of the tourist industry including the operation of hotels and low duty stores. Clerical and trades positions are available to islanders in the Norfolk Island Administration. Very few people rely entirely on agricultural pursuits for their income.

Finance

Until 1979, Norfolk Island revenue was supplemented by annual grants from the Commonwealth Government. Under present constitutional arrangements, the cost of maintaining the island, other than the Administrator and his staff, is met as far as practicable from island sources.

NORFOLK ISLAND: REVENUE AND EXPENDITURE
($'000)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
			REVENUE			
Customs duty	710	1,104	1,373	1,833	2,008	1,902
Liquor service	288	423	439	578	614	611
Company fees	111	96	94	84	92	108
Postal operations	755	1,016	801	744	114	272
Vehicle registration and licence fees	92	113	117	124	128	136
Departure fees *(a)*	—	—	—	—	—	272
Public works levy *(a)*	—	—	—	—	—	249
Fuel levy *(a)*	—	—	—	—	—	142
Telecommunications *(a)*	—	—	—	—	—	185
Electricity service *(a)*	—	—	—	—	—	115
All other *(b)*	718	1,094	1,624	1,777	2,173	688
Interest on investments (a)	—	—	—	—	—	336
Total revenue	**2,674**	**3,846**	**4,448**	**5,140**	**5,129**	**5,016**
			EXPENDITURE			
Administration	1,214	1,451	1,669	1,770	1,245	1,343
Education services	455	627	627	927	755	880
Health and welfare services	485	469	514	552	627	611
Repairs and maintenance	436	467	571	706	830	777
Capital works and services	210	99	265	768	1,682	638
Miscellaneous services	278	312	312	431	501	509
Legislative Assembly	183	192	230	234	210	182
Total expenditure	**3,261**	**3,617**	**4,188**	**5,388**	**5,850**	**4,940**

(a) For the years 1986–87 and prior, these amounts had been included in the total of 'All other revenue'. *(b)* 'All other revenue' is made up of sundry classifications none of which individually exceeds $100,000.

Trade, Transport and Communication

Imports to Norfolk Island since World War II have risen in value from $65,000 in 1945–46 to over $23 million in 1988–89. The major proportion came from Australia and New Zealand. Exports in 1988–89 amounted to $2.8 million, with Australia and New Zealand as the principal markets.

A shipping company operates cargo services to Norfolk Island at approximately 6 weekly intervals, linking the island with Australia, New Zealand and other islands in the South Pacific area.

A passenger and air freight service between Sydney and Norfolk Island is operated by East–West Airlines Ltd. Air New Zealand Limited provides a service 3 times a week to the island from Auckland. Flights between Norfolk Island and Brisbane are also operated by East–West Airlines 2–3 times a week and by Norfolk Island Airlines 2–4 times a week.

There are approximately 80 kilometres of motor roads on the island. A substantial section of the population possesses motor cars. Hire cars, taxis and scooters are available.

The island has an automatic telephone exchange and international telephone connection with Australia, New Zealand and Fiji by way of the ANZCAN submarine cable system. A local broadcasting service is operated by the Administration. The Administration also provides a television service. A central ground station receives ABS and SBS services via the AUSSAT satellite which are then re-broadcast throughout the island.

Education

Education is free and compulsory between the ages of 6 and 15 years. The school, which is conducted for the Administration by the New South Wales Department of Education conforms to the Australian standard of public education, ranging from Kindergarten to the School Certificate (Year 10) level. The number of students enrolled at 30 June 1989 was 313.

Some bursaries, subject to a means test, are available for pupils who wish to attend a mainland school either to continue their studies beyond the School Certificate level or to undertake high school courses not available on the island. A limited number of trainee scholarships are available for pupils who have left school and wish to undertake apprenticeships or similar training away from the island.

Judiciary

The judicial system of Norfolk Island consists of a Supreme Court and a Court of Petty Sessions. The Supreme Court is the highest judicial authority in the Territory and is a superior court of record with original criminal and civil jurisdiction. The jurisdiction of the court is exercised by one judge sitting in court or, to the extent provided by or under ordinance, sitting in chambers. The jurisdiction of the Court of Petty Sessions is exercised by the Chief Magistrate or any three Magistrates.

HEARD ISLAND AND McDONALD ISLANDS

Heard Island, about 43 kilometres long and 20 kilometres wide, is the largest of a group of southern Indian Ocean islands about 4,100 kilometres south-west of Fremantle. The islands were transferred from the United Kingdom to Australia as from 26 December 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the *Heard Island and McDonald Islands Act 1953*.

In December 1947, the first of the Australian National Antarctic Research Expeditions (ANARE) set up a scientific station on Heard Island. Various scientific and meteorological investigations were conducted until the station was closed in March 1955 following the establishment of Mawson station on the Antarctic mainland. Australian expeditions have since visited the island from time to time. From 1985 until March 1988 a major new research program was undertaken on the island, mainly involving investigation of the Island's wildlife as part of international studies of the Southern Ocean ecosystem.

The McDonald Islands are 43 kilometres to the west of Heard Island. They are small, rocky and precipitous. The first known landing on McDonald Island, the largest of the group of that name, was by ANARE expeditioners on 27 January 1971.

Heard Island is widely regarded as one of the last Antarctic habitats remaining free of introduced organisms, and is thus of significance as a benchmark for ecological studies. In December 1987, introduction of the Environment Protection Ordinance under the *Heard Island and McDonald Islands Act 1953* put in place the framework for sustained conservation of the islands.

AUSTRALIAN ANTARCTIC TERRITORY

An Imperial Order in Council of 7 February 1933 placed under Australian Authority all the islands and territories, other than the French Terre Adelie, south of 60°S latitude and between 45°E and 160°E longitude, a total land area of six million square kilometres, or the size of Australia less Queensland. The Order came into force with a proclamation issued by the Governor-General on 24 August 1936, after the passage of the *Australian Antarctic Territory Acceptance Act 1933*. The boundaries of Terre Adelie were definitively fixed by a French decree of 1 April 1938 as the islands and territories south of 60°S latitude and between 136°E and 142°E longitude. The *Australian Capital Territory Act 1954* declared the laws of the Australian Capital Territory, so far as they are applicable and not inconsistent with any ordinance made under the Act, to be in force in Australian Antarctic Territory.

On 13 February 1954 ANARE established the first permanent Australian Antarctic station, in Mac Robertson Land at latitude 67°36′S and longitude 62°53′E. The station was named Mawson in honour of the Australian Antarctic pioneer Sir Douglas Mawson. A second Australian continental station was established in 1957 at latitude 68°35′S and longitude 77°58′E, and was named Davis to commemorate Captain John King Davis, second-in-command of two of Mawson's expeditions and master of several famous Antarctic ships. On 4 February 1959 Australia accepted from the United States Government custody of Wilkes station, which had been established two years earlier at latitude 66°15′S and longitude 110°32′E. Wilkes was subject to inundation by snow and ice, and was closed on 19 February 1969 when activities were transferred to Casey, a new station built nearby. Casey was named in honour of Lord Casey, former Governor-General of Australia, in recognition of his long association with Australia's Antarctic effort.

Australian science in Antarctica deals mainly with the Antarctic ecosystem, the region's natural phenomena, and atmospheric and space studies. Disciplines include marine science, land based biology, meteorology, cosmic ray physics, upper atmosphere physics, glaciology and earth sciences.

In addition to its three permanent continental stations (a fourth permanent station is on the Tasmanian territory of Macquarie Island), Australia conducts its Antarctic science from summer bases at Cape Denison (in the eastern sector of Australian territory), Scullin Monolith, the Larsemann Hills and the Bunger Hills, as well as temporary field camps in such places as Enderby Land, Prince Charles Mountains, Amery Ice Shelf and Law Dome.

In 1981–82 a program for redeveloping Australia's Antarctic stations began. It is now well advanced, and the first of the new stations to be completed—Casey—was occupied in 1989.

COCOS (KEELING) ISLANDS

General Description

The Territory of the Cocos (Keeling) Islands comprises a group of 27 small coral islands in two separate atolls in the Indian Ocean, 2,768 kilometres north-west of Perth.

The Territory's administrative community, airport and animal quarantine station are located on West Island, the largest island, about 10 kilometres long. The Cocos Malay community lives on Home Island. The main atoll is low-lying, flat, and thickly covered by coconut palms, and surrounds a lagoon which has an anchorage in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about nine months of the year. However, the winds vary at times, and meteorological reports from the Territory are particularly valuable for those engaged in forecasting for the eastern Indian Ocean. The temperature varies between 21°C and 32°C, and the average yearly rainfall is 1,998 millimetres. There are occasional violent storms.

History and Administration

The islands were discovered in 1609 by Captain William Keeling of the East India Company, but were uninhabited until Alexander Hare and John Clunies–Ross established small settlements at different points on the main atoll in 1826 and 1827 respectively. Clunies–Ross secured sole possession in 1831, and the islands were declared part of the British Dominions in 1857. In 1878 responsibility for the supervision of the islands was transferred to the Government of Ceylon and eight years later, to the Government of the Straits Settlements.

In 1903 the islands were incorporated in the Settlement of Singapore but were attached again to Ceylon during World War II while Singapore was under Japanese occupation.

By mutual agreement between the British and Australian Governments, and confirmed by complementary legislation, the islands became an Australian territory in 1955. The Australian Government purchased the Clunies–Ross interests in the Territory in 1978, except for the family home and grounds.

The *Cocos (Keeling) Islands Act 1955* is the basis of the Territory's administrative, legislative and judicial systems.

An Administrator, appointed by the Governor-General and responsible to the Minister for the Arts, Sport, the Environment, Tourism and Territories, is the senior Government representative in the Territory.

On 25 July 1979 the Cocos (Keeling) Islands Council, elected by members of the Home Island community, was established. The Council has responsibility for a range of functions in the Home Island village area, advises the Administrator on local affairs, and is also empowered to make representations on ordinances proposed for the Territory.

The Cocos Islands Co-operative Society Limited, also established in 1979, conducts the business enterprises of the Cocos people. The Cooperative undertakes building maintenance and construction, stevedoring and lighterage services, retailing and provision of accommodation and catering services.

The Territory's own postal service, including a philatelic bureau, was opened in 1979. The service, run by the Administration, provides local employment and its profits are directed to the Cocos (Keeling) Islands Council for use on community projects.

On 6 April 1984 the Cocos Malay community, in an Act of Self Determination which took the form of a referendum observed by the United Nations, chose to integrate with Australia.

The population of the Cocos (Keeling) Islands at 30 June 1989 was 667, distributed between Home Island (468) and West Island (199).

Transport and Communication

There is an airport of international standard at West Island, controlled by the Administrator under licence from the Department of Transport and Communications. The Department of the Arts, Sport, the Environment, Tourism and Territories operates a weekly air charter service which alternates between the routes Perth–Christmas Island–Cocos (Keeling) Islands–Perth and Perth–Cocos (Keeling) Islands–Christmas Island–Perth. A shipping service operates to the Territory every 6–8 weeks. The Administration operates and maintains, on behalf of the Overseas Telecommunications Commission (Australia), a satellite communications facility which provides telephone, facsimile and telex services to the

Australian mainland and beyond. There are local postal and telephone services, and a non-commercial broadcasting station.

CHRISTMAS ISLAND

General Description

Christmas Island is an isolated peak situated in the Indian Ocean, latitude 10°25′S, longitude 105°40′E. It is approximately 360 kilometres south from Java Head at the southern entrance to Sunda Strait, 1,312 kilometres from Singapore and 2,623 kilometres from Perth. Christmas Island covers an area of about 135 square kilometres. It consists of a central plateau varying in height from 250 metres above sea level at the eastern side of the island to 150 metres on the western side. Several prominent rises in the plateau reach 360 metres above sea level. The plateau descends to the sea in a series of steep slopes alternating with terraces. Sea cliffs over 20 metres high run along a considerable portion of the coastline except in a few places, the chief of which is Flying Fish Cove where the principal settlement is located and which is the only anchorage.

The climate is tropical, with prevailing winds coming from the south-east to east-southeast from May to December, and occasionally shifting round to between north and west from December to April (the wet season). The average yearly rainfall is 2,673 mm with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which provide an adequate supply of fresh water for the population and for the mining operation. The mean average temperature is about 27°C, and does not vary greatly throughout the year.

Economy

The economy of the Territory has historically been based almost entirely on the mining and extraction of phosphate. In November 1985 responsibility for the mining operation was transferred from the Phosphate Mining Company of Christmas Island (a limited liability company wholly owned by the Australian Government) to the Phosphate Mining Corporation of Christmas Island, PMCI, (a statutory authority).

When it became apparent that PMCI could not operate within an agreed Government underwrite, the Government decided to close down the mining operation. A Liquidator was appointed on 11 November 1987 to wind up PMCI. The mining operation ceased on 31 December 1987, although it was announced in February 1988 that the Government would consider proposals by private operators to recommence phosphate mining on the Island provided that certain guidelines were met, including that there be no further rainforest clearing.

On 1 July 1988 it was announced that negotiations would commence with Elders Resources Limited for the recommencement of mining operations on the island. However, following a successful appeal to the Full Bench of the Federal Court by an unsuccessful proponent, negotiations ceased.

On 2 November 1989 the Minister for the Arts, Sport, the Environment, Tourism and Territories announced that tenders would be sought from companies or consortiums interested in operating the phosphate mine on Christmas Island. The new process is expected to take about six months.

Notwithstanding the recommencement of mining, the Government is actively encouraging private sector investment in new activities on the island to secure an economic future which is not solely dependent on mining. Several development proposals, including a major tourist hotel/casino project, are progressing.

The Government has recognised that the unique environment of the Island holds the key to its future development, in particular tourism. Several rare and endangered species of wildlife live on Christmas Island, the best known being the Abbotts Booby, an endemic sea bird which nests in emergent trees in the rainforest canopy.

Population

Some 1,300 people were residents of the island in November 1989. The majority are Chinese, with the remainder being mostly Malays and Europeans. There is no indigenous population.

Education

The Christmas Island Area School is run by the Administration. The school provides education from pre-school level through to Year 10 secondary level. It follows a locally developed curriculum aligned with that used in Western Australia. There are 239 students enrolled at the school. A further 23 senior secondary students (Years 11 and 12) in Western Australian schools receive assistance from the Administration.

History and Administration

Summarised particulars of the history of Christmas Island up to its administration by the United Kingdom as a separate Crown Colony (from 1 January 1958, pending transfer to Australia) are given in *Year Book* No. 51, and in earlier issues. On 1 October 1958, the island was accepted by Australia under the *Christmas Island Act 1958*. The Territory is administered by an Administrator appointed by the Governor-General. Responsibility for the administration and government of the Territory rests with the Minister for the Arts, Sport, the Environment, Tourism and Territories. The Administrator reports to the Minister and is subject to his direction. The laws which were in force on the island at 30 September 1958 were continued as the laws of the Territory after its transfer to Australia.

The *Migration Act 1958* was extended to the Territory from 23 January 1981, enabling all island residents to become Australian residents and to acquire Australian citizenship. A number of measures have since been taken to extend the same benefits and responsibilities to island residents as apply on the Australian mainland so that the islanders will be in no better or worse a position than their mainland counterparts.

The *Services Corporation Ordinance 1984* was made on 26 October 1984, creating the Christmas Island Services Corporation (CISC) with power to provide many local and community services on the island.

The *Taxation Laws Amendment Act 1985* received Royal assent on 30 May 1985. The Act provided for the introduction of full company tax and the Medicare levy, as well as the phased introduction of personal income tax on Christmas Island over a four year period from 1 July 1985.

The *Christmas Island Assembly Ordinance 1985* and the Christmas Island Assembly (Election) Regulations permitted Christmas Island residents to elect their first Assembly on 28 September 1985. Nine members were elected for a one-year term under a voting system similar to that used in electing Senators of the Commonwealth of Australia. The Christmas Island Assembly has responsibility for directing the Christmas Island Services Corporation in the performance of its functions.

Transport and Communications

A Joint Island Supply System (JISS) commenced operations on 1 February 1989. It was designed to provide a more efficient and cost effective shipping service to meet the needs of people living and working on both the Christmas and the Cocos (Keeling) islands.

An air charter arranged by the Department of the Arts, Sport, the Environment, Tourism and Territories, provides a weekly service to the island following alternate routes Perth–Christmas Island–Cocos (Keeling) Islands–Perth one week and Perth–Cocos (Keeling) Islands–Christmas Island–Perth the next. The Department also currently operates a fortnightly air charter between Singapore and the island.

The Territory has its own radio broadcasting station, police force, hospital, postal service and philatelic bureau. The VISTA communications system which provides an external telex and telephone service by intelsat satellite, and a back-up INMARSAT system, became fully operational on 17 October 1985.

CORAL SEA ISLANDS TERRITORY

The Coral Sea Islands Territory is situated east of Queensland between the Great Barrier Reef and longitude 156°06′E and between latitudes 12° and 24°S. The Territory comprises all the islands in a sea area of approximately 780,000 square kilometres. The islands are largely formed of sand and coral. Some have grass or scrub cover, but most are extremely small, with no permanent fresh water. A meteorological station, staffed by three people, has operated on Willis Island since 1921. The remaining islands are uninhabited.

In the 19th century many ships were wrecked in the area, and the reefs and islands are often named for the ships which foundered there. There are beacons on the Frederick and Saumarez Reefs and on East Diamond Islet, and a lighthouse on Bougainville Reef. There are occasional tropical cyclones in the area. Meteorological data are relayed to the mainland from automatic weather stations located on Cato Island, Flinders Reef, Frederick Reef, Holmes Reef, Lihou Reef, Creal Reef, Gannet Cay and Marion Reef.

Six species of sea turtle nest in the Coral Sea Islands Territory, including the largest species in the world, Dermochelys coriacea, which is regarded as one of the most endangered of the world's sea turtles. There are at least 24 bird species in the Territory; a number of these species are protected under Australia–Japan and Australia–China agreements on endangered and migratory birds. In 1982 the Lihou Reef and Coringa–Herald National Nature Reserves were declared to protect the wildlife in the Territory.

There have been a number of scientific expeditions to the region since 1859, and many specimens of flora and fauna are now housed in Australian herbariums and museums.

In 1969, the Coral Sea Islands became a Territory of the Commonwealth under the Coral Sea Islands Act. The Minister for the Arts, Sport, the Environment, Tourism and Territories in Canberra, is responsible for the administration of the Territory.

Aerial surveillance of the Territory is undertaken by the Royal Australian Air Force and by chartered civil aircraft. Regular visits are made to the islands by ships of the Royal Australian Navy.

THE TERRITORY OF ASHMORE AND CARTIER ISLANDS

Ashmore Islands (known as Middle, East and West Islands) and Cartier Island are situated in the Indian Ocean some 850 km and 790 km west of Darwin respectively. The islands lie at the outer edge of the continental shelf. They are small and low and are composed of coral and sand. Vegetation consists mainly of grass. The islands have no permanent inhabitants.

Great Britain took formal possession of the Ashmores in 1878 and Cartier Island was annexed in 1909. By Imperial Order in Council of 23 July 1931, the islands were placed under the authority of the Commonwealth of Australia. The islands were accepted by Australia through the *Ashmore and Cartier Islands Acceptance Act 1933* under the name of the Territory of Ashmore and Cartier Islands. By amendments to the Act in 1938, the Territory was annexed to, and deemed to form part of, the Northern Territory. With the granting of self-government to the Northern Territory on 1 July 1978, the administration of the Territory became a direct responsibility of the Commonwealth Government.

Responsibility for the administration of the Territory rests with the Minister for the Arts, Sports, the Environment, Tourism and Territories. Relevant laws of the Northern Territory apply in the Territory.

Birdlife is plentiful on the islands of Ashmore Reef. Turtles are plentiful at certain times of the year and bêche-de-mer are abundant. In recognition of the environmental significance of the area, the Reef was in 1983 given the status of a national nature reserve under the *National Parks and Wildlife Conservation Act 1975*. Regular visits are made to the Reef by officers of the Australian National Parks and Wildlife Service.

An agreement between Australia and Indonesia allows Indonesian traditional fishermen to continue to fish in Waters of the Territory. Since 1985, an Australian presence has been maintained at Ashmore Reef during the March to November fishing season to monitor the activities of visiting Indonesian fishermen.

The Jabiru and Challis oil fields are located within the adjacent area of the Territory.

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LIST OF SPECIAL ARTICLES AND MISCELLANEOUS MATTER CONTAINED IN PREVIOUS ISSUES

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